ARCHITECTURAL RECORD



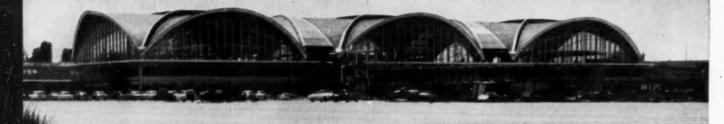
BUILDING TYPES STUDY

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411 Y 1956

SPECTACULAR ROOF DESIGN— St. Louis Air Terminal Building



Airport Terminal Building, St. Louis, Mo. Architects: Hellmuth, Yamasaki & Leinweber; Structural Engineer: William C. E. Becker; Consultants on Dome Design: Roberts and Schaefer of Chicaga; Chief Engineer City of St. Louis: W. R. Crecelius, General Contractor: L. & R. Construction Ce.; Design of Concrete Mix. Robert W. Hunt Co.; Possolith Ready-Mixed Concrete — used throughout — produced by Majestic Materials Corp. All of St. Louis, Missouri, except as noted.

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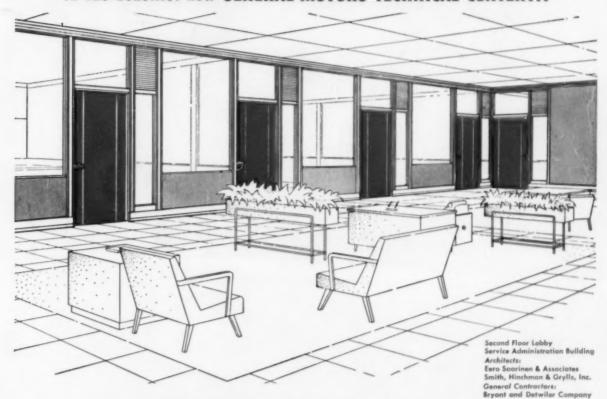


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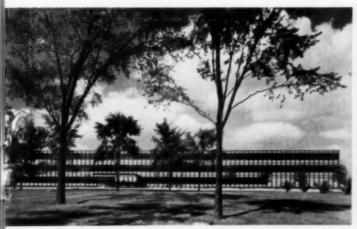
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ARCHITECTURAL RECORD

July 1956 Vol. 120 No. 1

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The second in a series of monthly presentations of the most significant buildings of the past century of American Architecture as nominated by a panel of architects and scholars.

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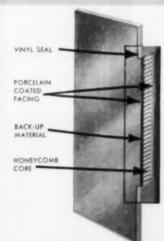
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THE RECORD REPORTS

PERSPECTIVES

ARCHITECTURAL RECORD is 65 years old this month - or, at any rate, its first issue is dated "For Quarter ending September 30, 1891," and its oldest bound volume is stamped "July-Dec. 1891," giving it a right, perhaps, to a July birthday of choice. Actually, the first issue was put on sale Aug. 15, 1891 — its publisher, Clinton W. Sweet, who had been since 1868 publisher of the Real Estate Record and Builders Guide, hoped his new quarterly would "keep architects and the general public in touch with progress in architecture, building and decorations at home and abroad." Over the years, as the Record became a monthly (1902) and developed its now familiar character as the professional journal for architects and engineers (from 1914 or so), it has survived (and occasionally encompassed) many a competitive venture; partly, perhaps, because of its good fortune in early becoming part of the developing F. W. Dodge family of services to the construction industry; but also, it seems likely, because it enjoyed a certain continuity of editorial direction (it has had only five chief editors) and a degree of editorial perspicacity which makes an inheritance both proud and humbling for its present editors. Among the early milestones, it may be timely just now to recall that the work of Frank Lloyd Wright (who celebrated a birthday himself last month - his 87th) was first published in the RECORD (that was in 1905) and that Louis Sullivan (whose centennial is this year) was frequently represented both as architect and author from 1892 to his death in 1924. At 65, however, there are many milestones to remember, and a good many laurels too; as it looks to the future, certainly the RECORD's most cherished accolade lies in the testimony of its healthy circulation and advertising figures that it honors a long tradition by leading its field today.

THE ARCHITECTURAL CHALLENGE ID-

herent in providing for the developing needs of an aging population finds a ready response from architects, if the initial interest in the current competition for a Home for the Aged is any indication. Six weeks before the scheduled August 1 closing date for receipt of entry forms, nearly 700 applications had been received. They came not only from this country but from England, France, Switzerland and (more than 100 of them) Canada as well. The competition (AR, May 1956, pages 326-327) is sponsored by the National Committee on Aging of the National Social Welfare Assembly, under a grant from the Frederick and Amelia Schimper Foundation, in conjunction with ARCHITECTURAL RECORD and The Modern Hospital. It offers \$10,000 in awards in an effort "to stimulate imaginative planning for a type of building rapidly increasing in volume and importance but relatively new to architects, and about which there is practically no reference material in the literature of architecture."

Housing for the aged got attention too at last month's Federal-State Conference on Aging, held in Washington under the joint sponsorship of the Federal Council on Aging, an interdepartmental government group recently created by the President to explore housing among other needs of older people, and the Council of State Governments. The emphasis in the discussions of housing, which had a single session in a crowded two-day agenda, was on the role that private enterprise could play in providing both individual and group housing for the aging, especially those who do not require institutional care. Emerson Goble, managing editor of ARCHITECTURAL RECORD, addressing the housing panel, suggested that the facts of community life today tend to segregate older people, and that a part of the problem is housing - "for the

lack of housing is the first physical fact in the feeling of rejection." The summary statement issued by the special discussion group on housing and living arrangements suggested that "we ought not to be building homes for older people as such, but well-designed, more flexible homes which would include special features ... essential for the aging and also practical and useful for younger people just starting their families. They would, in effect, be small homes that would be attractive and saleable to any small family seeking a modestsized home." The group also urged that statewide meetings of representatives of public, private and voluntary organizations be called by the governors of the states to study housing problems and needs of the aging. Only 14 states were reported to have active formal organizations for dealing with these problems.

PUBLIC RELATIONS, ANOTHER VIEW: That admittedly rather feeble family joke about the architect whose \$50,-000 retirement fund represents the architectural profits of 30 years plus a \$49,999.50 inheritance got a brisk reaction from West Virginia's Cy Silling when the RECORD (weakly) picked it up (April 1956, page 9). "The poorest kind of public relations, ought to be suppressed," wrote Mr. Silling. "In our office we insist on making money, call our clients' attention to that fact, tell them we think we can help them make some too. This is an early lesson in earning their respect. Being business men, it is talk they understand. Esthetics we give 'em for free, but later.'

Topped: Philip Johnson amiably proffered a sequel to that story about his house and Perret's reaction to it (AR, May 1956, page 9)—"He finally did come into the house and sat down, remarking, 'It is more comfortable here than in a railroad station."

THE RECORD REPORTS BUILDINGS IN THE NEWS

NATIONAL COUNCIL GROUP SELECTS "OUTSTANDING" MODERN CHURCHES

A group of 18 American churches, all of contemporary design, were selected as "outstanding" in a recent poll of members of the Commission on Architecture of the Department of Worship and the Arts in the National Council of Churches of Christ in the U.S.A. Eliel Saarinen's Christ Evangelical Lutheran Church at Minneapolis took first place on the list, which was compiled by asking each member to nominate 10 to 25 churches that were in his opinion the best examples of the type; the 18 chosen were the churches receiving the most nominations.

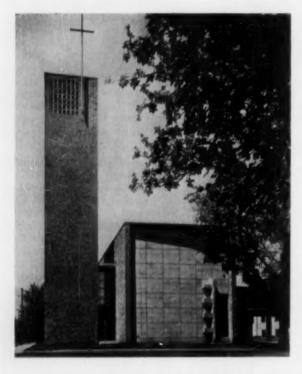
Although any church built since 1930

was eligible, only two of the churches in the final 18—Bruce Goff's San Lorenzo Church in California and Eliel Saarinen's Tabernacle Church of Christ in Indiana—were built before the end of the war; most of them, in fact, have been completed since 1950. Rev. Marvin P. Halverson, director of the department of worship and the arts, took the relative newness of these churches as an encouraging sign of "growing maturity" in church design.

"These churches," he said, "are examples of good design because they represent a high level of architectural expression of each church's ethos and

way of worship. This points the possibility of increasingly good design as congregations begin to understand their nature, tradition and way of worship. For it is only out of this self-understanding that a church will be prepared to enter into a dialogue with the architect which is basic to enduring architectural achievement."

Chairman of the commission is Walter A. Taylor, director of education and research for the American Institute of Architects. Other members include architects, architectural educators, editors, clergymen and "specialists in the field of church design."



Above: the Christ Evangelical Lutheran Church, in Minneapolis, look first place in the National Council of Churches' poll to select outstanding new churches; it was designed by architects Saarinen, Saarinen and Associates, and completed in 1949. Other churches listed in the poll included, at right, top: First Presbyterian Church at Cottage Grove, Ore., completed in 1951, Pietro Belluschi, architect; center: Meeting House of the First Unitarian Society, Madison, Wis., completed in 1951, Frank Lloyd Wright, architect; and bottom: Central Lutheran Church, Eugene, Ore., completed in 1955, Pietro Belluschi and Skidmore, Owings and Merrill, architects









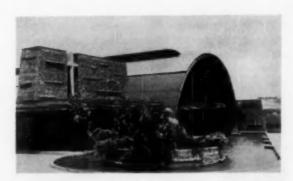
Wayfarer's Chapel (Church of the New Jerusalem), Palos Verdes, Cal., 1952, John Lloyd Wright, architect



First Methodist Church, Plainfield, Iowa, completed in 1951, Schweikher & Elling, architects



Chapel, Massachusetts Institute of Technology, Cambridge, Mass., 1955, Eero Saarinen and Associates, architects



San Lorenzo Community Church (U.S. Navy Seabee Chapel), San Lorenzo, Cal., 1941, Bruce Goff, architect



St. Stephen's Episcopal Church, Columbus, Ohio, completed in 1953, Brooks and Coddington, architects



First Methodist Church at Midland, Mich., completed in 1952, Alden B. Dow, architect



Zion Lutheran Church, Portland, Ore., completed in 1950, Pietro Belluschi, architect

(Continued on page 12)

THE RECORD REPORTS BUILDINGS IN THE NEWS

(Continued from page 11)



St. Matthew's Episcopal Church, Pacific Palisades, Cal., 1953, A. Quincy Johnes and Frederick E. Emmons, architects



St. George's Episcopal Church, Durham, N. H., completed in 1954, John A. Carter, architect



Tabernacle Church of Christ, Columbus, Ind., completed in 1942, Eliel Saarinen and Eero Saarinen, architects



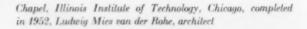
Central Lutheran Church, Portland, Ore., completed in 1951, Pietro Belluschi, architect



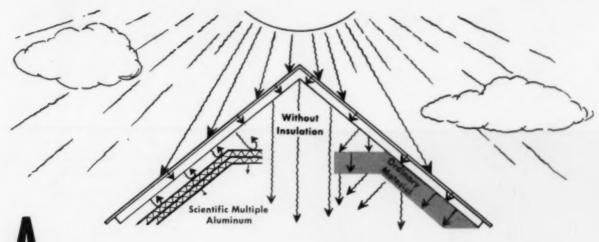
Church of Saint Clement (Episcopal), Alexandria, Va., completed in 1948, Joseph H. Saunders Jr., architect



Danforth Chapel, Colorado A \upphi M College, Fort Collins, Colo., completed in 1954, James M. Hunter, architect







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The solution: Use a material which has little substance, whose surfaces face deep reflective air spaces and absorb and emit little radiation. Gold or silver foil would be excellent, but tough scientific multiple aluminum, which weighs but 1/4 oz. per sq. ft., is inexpensive and almost as good, with a heat ray absorptivity and emissivity of only 3%.

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The National Bureau of Standards Booklet BMS52, "Effect of Ceiling Insulation Upon Summer Comfort" lists on Page 10 the relative effectiveness of the insulations tested in protecting ceilings against summer heat. First in effectiveness was two layers of aluminum foil (both sides of each layer reflecting). Second was full thick (3%-inch) ordinary insulation. (Use coupon to get the booklet FREE!)

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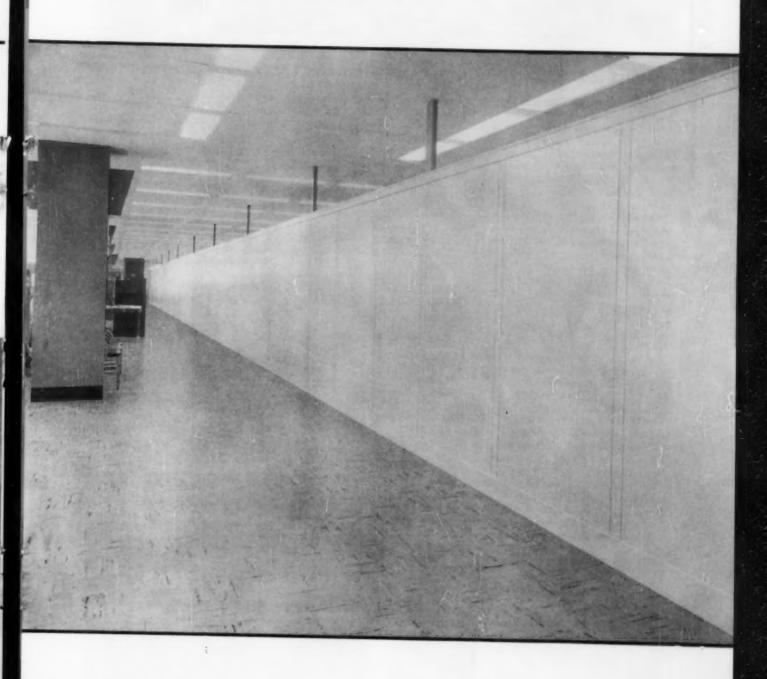


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MURPHY & MACKEY DESIGN WINS WASHINGTON UNIVERSITY COMPETITION

Integration of a contemporary and highly functional building with a fine old environment was the heart of the problem faced by the six invited participants in the recent competition for a \$3.5 million central library to be the first unit in the ten-year "Second Century Development Program" of Washington University in St. Louis.

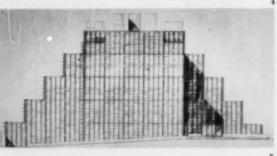
The winning scheme, submitted by Murphy & Mackey of St. Louis (photo of rendering above) puts the entrance on the ground floor with two stack levels above and two below, was considered by the jury to offer "the greatest accessibility of readers to books," "the great advantage of reducing the bulk of the building above ground," and an arrangement of the main floor "superior to any other submitted."

Other submissions are shown in small photographs of renderings below, with jury comments deliberately excerpted to indicate the major criticism.

"The fine scale of the campus" which the jury — and the program — were so concerned with preserving owes its origin to an overall campus plan developed by landscape architects Olmstead, Olmstead and Eliot 56 years ago when the University moved to its present location; its first buildings, designed by Cope and Stewardson as the winners of a limited competition, and the many added since have all adhered to the original plan. The result, the program asserted, is "spatial unity, harmony and beauty unusual in the architecture of American higher education."

Members of the Jury were Dean William Wurster of the University of California School of Architecture; Charles W. David, former director of libraries at the University of Pennsylvania; and Henry R. Shepley of the Boston architectural firm of Shepley, Bulfinch, Richardson & Abbott. Buford Pickens, dean of the University's School of Architecture since 1953 and now architectural adviser for the development program, was professional adviser.

1. CAUDILL, ROWLETT, SCOTT & ASSOCIATES—
"Exciting, graceful and imaginative as this project appears, there are many drawbacks. The principal one is the disruption of the campus by the vast surrounding terrace. . . ." 2. HELLMUTH, OBATA & KASSABAUM—". . . a formidable bulk above ground which would overpower present structures. . ." 3. JAMIESON, SPEARL, HAMMOND & GROLOCK—"An awkward site plan and tremendous bulk above ground. . ." 4. LOUIS I. KAHN—"Tremendous bulk above ground and aggressive pyramid shape . . incongruous with the grace of the old campus buildings. . ." 5. EDWARD STONE—"The exterior of the building, although of considerable mass . . . vas handled with distinction and taste. . . . If the stacks had been extended . . under the covered walkway and the height of the building reduced, both workability of the library and relationship with the existing buildings would have been improved. . ."

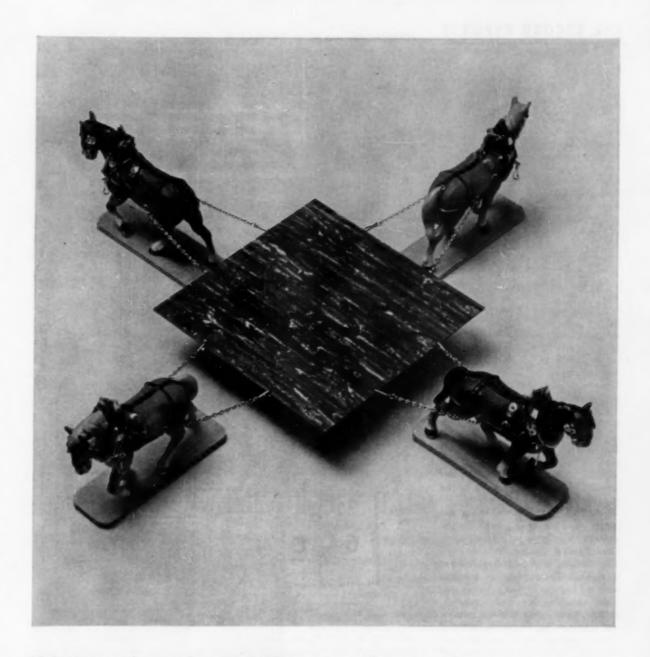












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PENNSYLVANIA BUILDS A NEW KIND OF REHABILITATION CENTER

A pioneer project in the field of rehabilitation facilities is under way in Johnstown, Pa., where the Pennsylvania General State Authority is erecting a Rehabilitation Center for the Physically Handicapped whose primary mission is to train the physically handicapped for gainful employment. Architects are the Buchart Engineering Corporation, York, Pa. Contract cost is \$7,464,809; completion is scheduled for the end of next year.

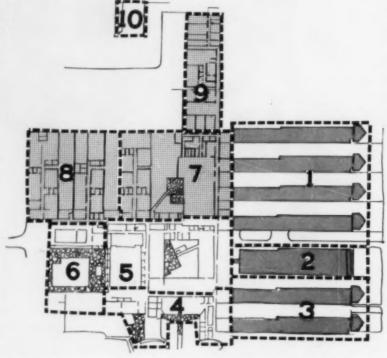
The Center is designed to accommodate 348 trainees, with provision for expansion to 400, (It is the present policy of the state that if requirements exceed 400, another center will be built.) It is important in the concept of the project that its people are trainees and not patients; it is not a hospital. It does have an infirmary, but the initial stage of recovery for a person disabled by accident will generally have taken place before he is admitted to the Center. It is also anticipated that the physically disabled person will be admitted to the Center before he has received any other rehabilitation, the idea being for him to have the full benefit of an integrated program from the very beginning. Elementary training - self feeding, toilet training, etc. - will be provided for the severely handicapped when required.

The basic principle underlying the design was to make it possible for the trainees to accomplish their daily routines of eating, therapy, counseling and shop training with as little movement as possible. Thus a one-story complex, with the therapy section as the center, easily accessible from living quarters, dining section, shop training sections and recreation section. In the course of a day's activity, the trainee will leave his living quarters in the morning and not return to them until after the evening meal. The effort has been to locate

everything required during a normal day of training and rehabilitation for the easiest possible accessibility.

The site of the Center is two miles from an airport and well located in relation to rail and highway routes; so that trainees arriving either by rail or plane can be brought quickly by ambulance to the Center.

The architects report that an "incalculable" amount of research was required to develop their design of what they believe to be the first center in this country specifically planned and built for its particular purpose. No complete criteria existed for this type of building, and in the process of developing their own, the architects studied all the available material from the Office of Vocational Rehabilitation of the U. S. Department of Health, Education and Welfare; interviewed dozens of rehabilitation authorities; and visited existing facilities of a related type at the Woodrow Wilson Rehabilitation Center in Virginia, the New York Institute of Physical Medicine and the Kessler Institute at East Orange, N. J.



SKETCH OF THE PLAN shows: 1. Men's dormitories. 2. Infirmary. 3. Women's dormitories. 4. Administration. 5. Therapy. 6. Social and recreation. 7. Vocational training and eating. 8. Vocational training. 9. Vocational training and service. 10. Boiler room





BORDEN ALUMINUM GRATING IN NEW MELLON SQUARE PARK . . .



PITTSBURGH, PENNSYLVANIA

Encircled in the picture above is one of several aluminum grating air vents in use throughout the park as air exhausts for the multiple-level parking area below ground.

The arrows indicate two of the locations of a system of drain trenches in existence throughout the park.

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James H. Vernon School East Norwich, L. I., N. Y

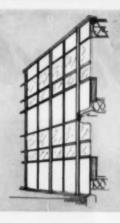
Architects La Pierre, Litchfield & Partners — Alfred Hopkins & Associates



Voodrow Wilson Senior High School
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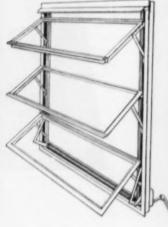




East Williston High School East Williston, L.I., N.Y.

Architects La Pierre, Litchfield, & Partners — Alfred Hopkins & Associates

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Bob Duncan, Photo - N. Y.

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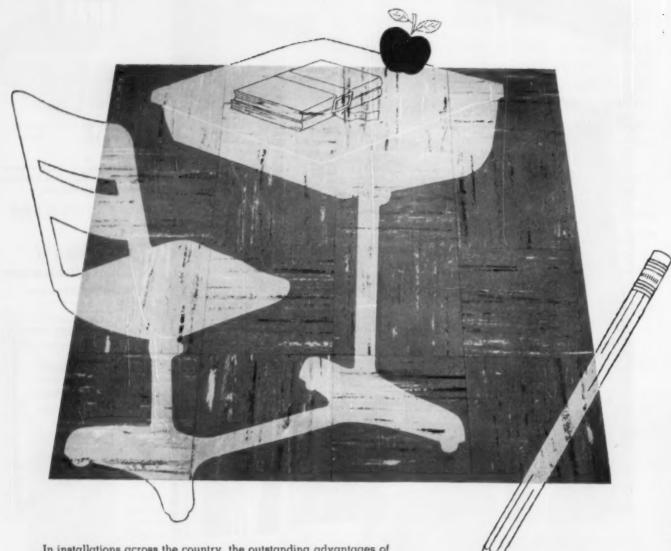


Guy Francis Lamb & Raymond Hood & Associates, Architects



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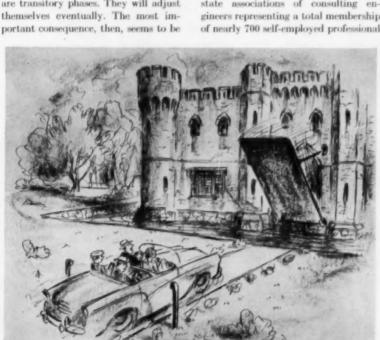


The State of Construction

F. W. Dodge figures on construction contracts awarded in the 37 states east of the Rockies continued to indicate a strong outlook for future construction, with the contract award total for May 13 per cent above the figure for May 1955; at \$2,479,775,000, it was a high for the month second only to May 1951, a month when the total was abnormally swollen by nearly a billion dollars in atomic energy contracts. Dodge economist and vice president George Cline Smith, noting in mid-May the prospect of another record year for construction and "even bigger years" ahead, saw also the possibility of some minor trouble arising from those very prospects -"It seems to me that we have suddenly decided to meet all of our building demands at once, this year. Noble as this objective is, we can't do it. . . . The inevitable result of trying to go ahead too fast will be shortages of manpower and materials, tight money and inflation - with the possibility of some mild fits and starts in the economy later on. I don't want to overstress the seriousness of those consequences, however. Tight money and short materials are transitory phases. They will adjust themselves eventually. The most ima rise in construction costs, which is about as certain as death and taxes. And even this shouldn't be too catastrophic, if Washington, and our states and cities, maintain a realistic attitude toward the volume of public construction that can be supported under current conditions. . . . We can't do everything we want to do all at once, but we can make a good start toward catching up on schools, highways, plant capacity, flood control and all the other needs in our backlogs."

Consulting Engineers Organize

A meeting to be held July 6-8 at Tulsa is expected to ratify a constitution and bylaws for a national association of consulting engineers which has been in the process of organization for nearly a year. Object is to provide a voice for independent consulting engineers in private practice on such matters of their common national concern as Federal government work, the package deal, bid shopping, and relationships with architects, and a clearing-house for exchange of information in areas of mutual interest and benefit. A first national convention held at St. Louis last fall was attended by representatives of ten regional and state associations of consulting engineers representing a total membership of nearly 700 self-employed professional



— Drawn for the Record by Alan Dunn
"What saves this place is the electric eye —"



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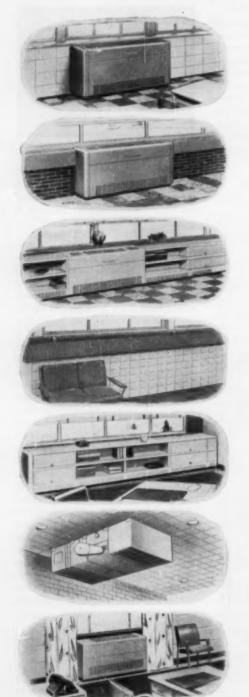
CONGRATULATIONS to Walter Gropius from the president of the Royal Institute of Brilish Architects, C. H. Astin, C.B.E., following presentation of the Royal Gold Medal for 1955 at a ceremony held in London in April

engineers. They voted formally to "consider" a permanent organization -- to be open to "similar" associations of consulting engineers wishing to join and named an Interim Steering Committee headed by John K. M. Pryke, president of the New York Association of Consulting Engineers, to draft a constitution and prepare for an organization meeting. Other members of the committee: Pecos H. Calahan, executive secretary of the Consulting Engineers Association of California, vice chairman; T. E. Roche, of the Minnesota Association of Consulting Engineers, secretary; and Bernhard M. Dornblatt, of the Gulf Institute of Consulting Engineers, treasurer. Besides those already named, "founding" groups include the Chicago Association of Consulting Engineers, the Colorado Association of Consulting Engineers, the Intermountain Institute of Consulting Engineers, the Missouri Association of Consulting Engineers (St. Louis Chapter), the Consulting Engineers Association of Oklahoma (host at this month's meeting) and the Association of Consulting Engineers of Upstate New York.

P. C. at Los Angeles

Plans for a Modular Building Council were announced by President William Gillett of the Producers' Council at the annual Spring luncheon of the Council in Los Angeles May 14. Its aims are to encourage — by membership — individual participation by architects, contractors and others interested in promoting modular measure and to "broaden the financial support of the program by inviting small, as well as large, contributions." At the same ses(Continued on page 24)

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SYNCRETIZER WITH WIND-O-LINE RADIATION, meets two extreme needs: classroom heating and ventilating and cold surface protection. Reduces overall costs when installed as the Series Hot Water Wind-o-line System. Publications 101, 104.

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THE RECORD REPORTS

MEETINGS AND MISCELLANY

(Continued from page 21)

sion, the annual awards made by the American Standards Association to the three men considered to have done the most to promote the use of modular measure in building were presented to Leonard G. Haeger, technical director of Levitt & Sons, Levittown, Pa., Fred M. Hauserman, president of E. F. Hauserman Company, Cleveland, and H. B. Zachrison, Chief of the Engineering Department, Army Corps of Engineers. Discussing - as he has before - "This Business of Architecture," Charles Luckman of the Los Angeles and New York architectural firm of Pereira and Luckman, chief speaker at the luncheon, had this to say: "We must recognize the fact that, more and more today, the corporate client is the buyer of most of the architecture, not the individual client. And through the economic realities of life, architects are learning, I believe, to make a wider distribution of their services, and therefore, a greater impact on our civilization. I know, of course, I will be criticized for saying this, but I believe with all my heart that while this process may have been done at the expense of the highest or idealistic design standards, it is resulting in an obvious raising of the lowest standards in a greater sense of what is appropriate and important and a greater logic of structure, and in better and more thoughtful planning. And for those of us who are not geniuses. I think this is a very soul-rewarding platform on which to stand." At a morning session, there was a panel discussion on "The Challenge Facing Manufacturers," with Mr. Hauserman as moderator and as speakers John Knox Shear, editor-in-chief of



Herbert Dalling

CHARLES LUCKMAN addressing the spring meeting of the Producers' Council in Los Angeles; looking on, C. W. Kraftile of the Kraftile Co., Niles, Cal., and Thomas S. Holden, F. W. Dodge Corp.

ARCHITECTURAL RECORD, Mr. Zachrison, George M. Pardee Jr. of Pardee & Phillips and Henry E. North Jr., president of Arcadia Metal Products.

Honors

Talbot F. Hamlin's "Benjamin Henry Latrobe" (AR, Dec. 1955, page 56) has won the 1956 Pulitzer Prize for biography. Mr. Hamlin, who retired last year from his post as professor of architecture at Columbia, had already received, for the same work, the 1956 Alice Davis Hitchcock Award of the Society of Architectural Historians for "the outstanding contribution to architectural history by an American architectural historian on an American subject published in the Americas" . . . Architect John Yeon of Portland, Ore., has been awarded the second annual Arnold W. Brunner Memorial Prize in Architecture of the National In-

stitute of Arts and Letters. The award, of \$1,000, was first given last year to Gordon Bunshaft of Skidmore, Owings & Merrill. . . . Three architects have been elected to associate membership in the National Academy of Design -Robert Bellows of Boston, Gardner A. Dailey of San Francisco and Alfred Easton Poore of New York. . . . Charles B. Bennett, director of planning for the architectural and engineering firm of Pereira & Luckman, New York and Los Angeles, has been presented the annual Distinguished Service Award of the American Institute of Planners. . . . An honorary degree of Doctor of Laws was conferred on Ludwig Mies van der Rohe at North Carolina State College. . . . The Grand Architectural Award of the 1956 Boston Arts Festival went to the M.I.T. Chapel designed by Eero Saarinen & Associates, with Anderson, Beckwith & Haible associated (AR, Jan. 1956). Other Festival awards in architecture: Special Commendation and Citation - Coletti Brothers, for Beach Pavilion, Salisbury, Mass. (AR, Oct. 1955), and The Architects Collaborative, for Northeast Elementary School, Waltham, Mass.; Awards of Merit - The Architects Collaborative, for Overholt Thoracic Clinic, Boston; Warren H. Ashley, for Wilbert Snow Elementary School, Middletown, Conn.; George W. W. Brewster, for Henry S. Chafee Residence, West Barrington, R. I.; Gates & Ford, for a residence in New Canaan; John Johansen, for residence in Fairfield County, Conn. (AR, Dec. 1955); Irving Salsberg and Ralph LeBlanc, for North Shore Music Theater, Beverly, Mass.; Shepley, Bulfinch, Richardson & Abbott, for

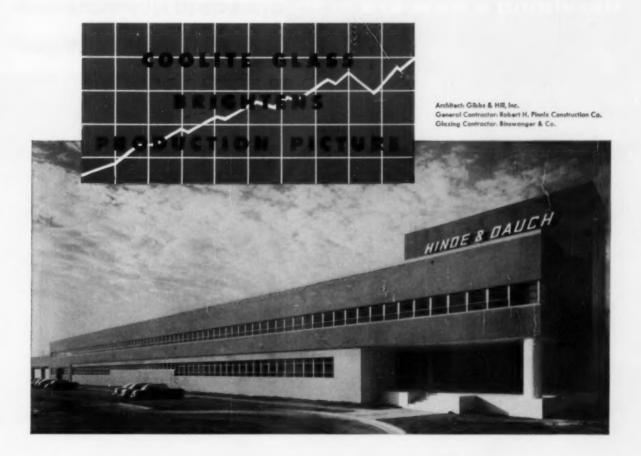
(Continued on page 28)



A HALF CENTURY OF ARCHITECTURAL EDUCA-TION — Two of the 71 buildings by 56 former students of the School of Architecture, Georgia Institute of Technology, which make up an unusual retrospective exhibition inaugurated at the



School and soon to be circulated by the Smithsonian Institution's Traveling Exhibition Service—(left) Abreu Summer Home, Sea Island, Ga., Philip T. Shutze '12, architect; (right) Residence, Central Florida, Mark Hampton '49, architect



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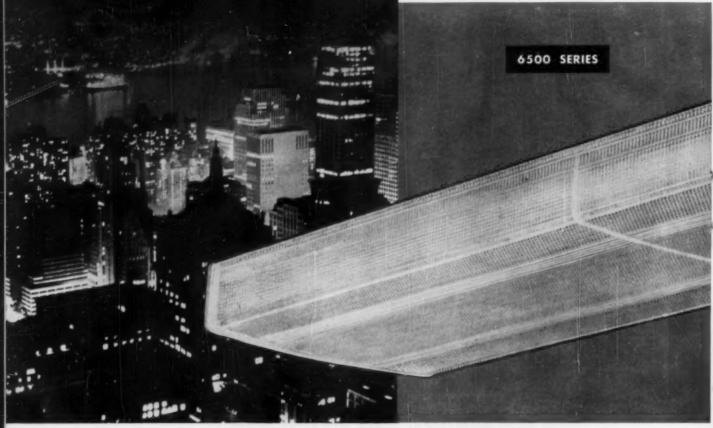
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THE RECORD REPORTS

MEETINGS AND MISCELLANY

(Continued from page 24)

Bates and Freeman Dormitories, Wellesley College. Jury for the competition, for work in New England completed within the last five years, were G. Holmes Perkins, Joseph Hudnut and Vincent Kling. . . . Top awards in the 1956 Honor Awards Program of the Chicago Chapter of the American Institute of Architects and the Chicago Association of Commerce and Industry were as follows: Elliott Chapel of the Presbyterian Home, Evanston, Ill., Schmidt, Garden & Erikson, architects; Highland Park, Ill., High School, Loebl, Schlossman & Bennett, architects; Hubbard Woods Fashion Center, Cone & Dornbusch, architects: National Congress of Parents and Teachers Headquarters, Holabird & Root & Burgee, architects; Prudential Building, Naess & Murphy, architects; American National Bank and Trust Company of Chicago (alterations), Skidmore, Owings & Merrill, architects. In addition to the six honor awards in architecture, there were three in "Craftsmanship and Related Fine Arts" and 11 Citations of Merit. . . . Alan H. Rider of Bloomfield Hills, Mich., a graduate of Carnegie Institute of Technology and Cranbrook Academy of Fine Arts, has been awarded the Lloyd Warren Scholarship, the 43rd Paris Prize in Architecture, by the Beaux Arts Institute of Design. Mr. Rider, a designer with Eero Saarinen & Associates, receives \$5000 for 18 months of study and travel. . . . Twelve Rome Prize Fellowships for \$3000 each for a year of study at the American Academy in Rome beginning Oct. 1, 1956 include one in architecture, awarded to David J. Jacob, Alexandria, Va., a graduate of Syracuse University and Cranbrook, a Naval Reserve officer currently on active duty . . . The LeBrun Traveling Fellowship of the New York Chapter, A.I.A., has been awarded this year to John Pawlikowski of Chicago. The award is \$3000 for six months' travel and study in Europe. . . . Another New York Chapter award, the 1956 Arnold W. Brunner Scholarship of \$2400, has been made to Caleb Hornbostel, New York architect, for a book to be entitled "Materials in Architecture."

Who's Who

The most elaborate compendium of information about who's who in Ameri-

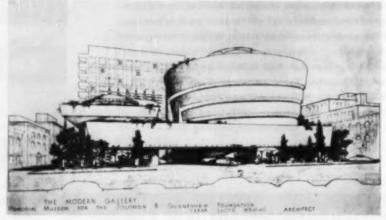
can architecture ever attempted has been published by R. R. Bowker Company (62 West 45th Street, New York 36, New York) in the American Architects' Directory. The 748-page volume, providing biographical data on some 11,000 active American architects. was sponsored by the American Institute of Architects under the editorship of Dr. George S. Koyle, F.A.I.A., emeritus professor of architecture and former dean of the School of Fine Arts of the University of Pennsylvania. Included are all members of the A.I.A. and "certain non-members deemed likely to be inquired about" (Frank Lloyd Wright, for instance). Appendices provide lists of architectural schools and their deans; of architectural examining boards and their secretaries; of A.I.A. documents. There are also articles on the selection of an architect, the value of an architect and other themes equally salutary for public consumption. Available from Bowker for \$20, and worth every penny. . . . In the A.I.A. (a roundup of items submitted over the last few months) - Arkansas Chapter has elected Ralph O. Mott as president, Gordon H. Wittenberg vice president, Noland Blass Jr. secretary, Burnice S. Conway treasurer. . . . California Council of Architects has John Lyon Reid as its 1956 president, with William Glenn Balch as vice president, Lee Kline secretary, Al Thomas treasurer. . . . Oregon Chapter officers for 1956 are Donald W. Edmundson, president; Walter Gordon, vice president; Earl P. Newberry, secretary; Charles Gilman Davis, treasurer. . . . Virginia Chapter elected Richard L. Meagher president, Thomas K. Fitz Patrick vice president, Fred P. Parris secretary and Thomas R. Leachman treasurer. . . . Northern Illinois Chapter officers for



ARCHITECTURAL JOURNALISM AWARDS ceremony at the annual luncheon of the New York Chapter, A.I.A. - retiring secretary Harmon Goldstone, retiring president Robert Hutchins, senior edilor Frank Lopez of ARCHITECTURAL RECORD, and the new chapter president, Robert Cutler of Skidmore, Owings & Merrill. The only two awards open to professional architectural magazines in the A.I.A.'s third annual competition went to Pietro Belluschi's "The Meaning of Regionalism in Architecture" (best article) and a photograph of Le Corbusier's Chapel of Notre Dame du Haut by Rene Burri of Magnum Inc. (best architectural photograph), both published in Architectural Record.

1956-57 are Donald Patton, president; Charles M. Bradley, vice president; Richard F. Wolfley, secretary; Donald Lippincott, treasurer. . . . New York Chapter has Robert S. Cutler of Skidmore, Owings & Merrill as president: Harold C. Bernhard of Shreve, Lamb & Harmon Associates vice president; L. Bancel LaFarge secretary; Aaron N. Kiff of York & Sawyer treasurer. . . . The National Academy of Design has elected Eliot Candee Clark, painter, as its new president, succeeding architect Lawrence Grant White of McKim, Mead & White, who resigned, owing to the pressure of his firm's work, after five years in the post.

THE BIG NEWS IS -- IT'S UNDER CONSTRUCTION AT LAST!



(More news on page 32)

New way to specify roof insulation

Use new	Not obsolete
conductance	inch
figures —	thickness spec.

mickness spec.
"Nominal" thickness
1"
11/2"
2"
21/2"
3"

Recently, the U.S. Department of Commerce recommended that roof insulation be manufactured to specific thermal conductances, rather than inch thicknesses. Under this new simplified practice method, architects will specify performance rather than thickness. Contractor, manufacturer, and roofer will be clearly aware of the thermal standard the insulation must meet, and misunderstandings will be avoided.

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The insulation value of each thickness of Armstrong "Certified" Temlok is guaranteed to equal or exceed the corresponding conductance figure in the left-hand column of the table. "Certified" Temlok is available in both plain and asphalt-impregnated types. This low-cost, accurately cut roof insulation is made of tough pine fibers that give the boards high insulation value and unusual strength.

Temlok is easy to handle on the job, withstands rough treatment, and provides a firm base for built-up roofing. Precision-cut edges assure heat-tight joints.

When you specify "Certified" Temlok Roof Insulation, you determine the insulation conductance needed to meet the design requirements of the roof. This conductance figure, or "C" value*, is the figure you enter in your specification. There's no need to convert to inches. Armstrong "Certified" Temlok Roof Insulation with a "C" value that equals or exceeds the job requirements will be shipped.

For complete information on Armstrong "Certified" Temlok Roof Insulation, call the Armstrong office nearest you or write today to Armstrong Cork Company, 3807 Rock Street, Lancaster, Pennsylvania,

* The amount of Btu's that pass through a sq. [t. of material per degree of F. temperature difference at 75° mean temperature.

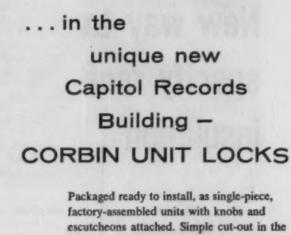


The high strength of Armstrong Temlok Roof Insulation means better workmanship on the job. Edges stay sharp for tight joints. Little-pitch is absorbed by the boards, so insulating efficiency remains high.



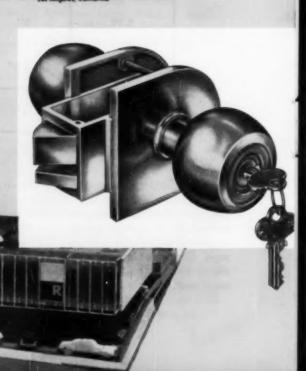
CORKBOARD TEMLOKE ASPHALT-IMPREGNATED TEMLOK





Packaged ready to install, as single-piece, factory-assembled units with knobs and escutcheons attached. Simple cut-out in the door, and holes for through bolts — and any of 20 available functions can be quickly slipped into place. Available in a wide range of modern designs to meet every functional requirement of fine commercial and institutional buildings.

CAPITOL BECORDS BUILDING
Hollywood, Colifornia
Owner: Capitol Records, Inc.
Architects and Associates, Les Angeles, California
General Contractor: C. L. Peck,
Los Angeles, Cultifornia
CORBIN Locks and other bordware by:
Union Mendeures and Motel Co.



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Every year more of the world's outstanding new buildings are being equipped with CORBIN Finishing Hardware. In schools, hospitals, office buildings — in the largest commercial and institutional buildings of every type, it has proved its quality time and again. The CORBIN Line is complete — provides all the finishing hardware for a building. Consult your dealer about the complete CORBIN Line . . . first choice in finishing hardware.

... in outstanding buildings everywhere



PRUDENTIAL INSURANCE COMPANY OF AMERICA South Centrol Home Office Building, Judsonville, File. Architects: Kemp, Bunch, and Jackson, Jacksonville, Fiscials Ceneral Contractors: Deniel Construction Company of Alabama Carbin Lacks and other hardware by: Wienberly & Thomas Hardware Co., Birminghom, Alabama

1.5N-03R-BHYNE COLLEGE
Hickery, N. C.
Auditoriem and Gymmesiom
Archivets: Clemmer and Horton, A.I.A.,
Hickory, North Corolina
General Contractors: Guy Frye and Sanz., Inc.,
Hickory, North Corolina
Carbin Lacks and other hardware by:
Alan H. Show Co., Asheville, North Carolina
ST. PRAMCES SANT/ASHOM
Maneres, Lo.

Architects: Smith & Padgett, Morres, Louisiness General Coulores: Southeastern Construction Co., Jackson, Milosinippi Carbit Locks and other herdware by: Ideal Building Materials, Inc., Shrawapert, Louisiana SENSON MISON SCHOOL.

SENSOR MINOS SCHOOL ENGINE MARCHINETTE SENSOR CONTROL OF MINOSIN GRAND CANTON CONTROL OF MINOSIN GARANTEEN WASHINGTON WILLIAM STATE OF MINOSING CANDA LAKE AND ADDRESS OF MINOSING MINOSING MINOSING MINOSING MINOSING MINOS



RADIO CENTRO S.A. C. M O Station, Howano, Cube Architects and Contractors Emilio del Junes, Miguel Gesten, and Martin Dominguez, Havena, Cube Carbin Locks and other hardware by: Jose Garcio Senilez, Hovena, Cube

METHODIST INDSPITAL OF SOUTHERN CALIFORNIA Arabile, California and Thomas, A.I.A., Los Angeles, Celifornia General Contractors: Ford J. Twalts Co., Los Angeles, Celifornia Carbin Lacks and other hardware by: Daniel C. May, Beverty Mills, California

RANIEE STATE SCIOOOL Budkey, Weshington (costeded and ward buildings) Architects: Naromere, Bain, Brady & Johnson, Beattle, Weshington General Contractors: Maxdonald Building Cospany, Tousme, Weshington Carbin Locks and office herdware by:

STEPHEN FOSTER SLEMENTARY SCHOOL ban Biege, Colfil.

Architects: Clyde Hurbower,
Sam Diege, California
General Controlors: I. C. Curry, San Diege, Calif.
Carbin Locks and other hardware by:
Gould Mardware and Machinery Ca.,
San Diege, California



CONSTRUCTION VALLEY MEMORIAL INCOPPTA Ashinotown, Pa. Architects: Hunter, Coldwoll & Campball, Alteone, Pennsylvania General Cantractors: Berkebile Bres., Johnstown, Pennsylvania Carbin Locks and other hardware by: Bartley Hardware, Pittsburgh, Pennsylvania

97. JOHNET HOSPITAL (West Wing)
Islan, Oklaheme
Architects: Leon B. Senter, AlA,
Tuliac, Oklaheme
General Controctors: Hormon Construction Co
Tulso, Oklaheme
Corbin Lecks and other hordware by:
Builders Hordware and Supply Co.,
Tulso, Oklaheme

P & F CORBIN DIVISION

The American Herdware Corporation New Britain, Connecticut





ADVANCE PLANNING BULWARKS MILITARY CONSTRUCTION PROGRAMS

The advance planning of military construction projects is enabling the Defense Department to do a better job of preparing budget estimates for Congress and carrying its early work closer to the complete final design stage.

Before a couple of years ago, military planning officials could not proceed with the confidence they have today because they had to await Congressional approval of specific amounts for planning purposes. The limited amounts of money permitted design only through preliminary stages except in a few cases. Completion of final design had to await construction funds.

Requirements then had to be developed without the benefits of careful planning that can go into the programs now. This earlier situation led to the submission of projects to Congress that later were rescinded in considerable volume, withdrawn because proper consideration could not be given to them in the overall planning procedure.

Master planning, investigations and studies, development of standards, mobilization planning, and advance design now are included as a most important early part of military construction projections.

The Army, for example, sought \$9,-865,000 for these specific purposes for fiscal 1957, the period just now beginning. On this point, Col. William R. Schuler, chief of the department's construction division, told an appropriations subcommittee: "These are quite important elements in our effort to keep our program stabilized, to know where we want to build future requirements: to develop standards so that we can have standard buildings and save money by so doing.

"We have mobilization planning to do to keep ahead of the game so we can, on mobilization, have an orderly program of buildup as needed. Then a most important part is advance design which gives us better budget estimates to present to Congress, and enables us to get to a point in our design where we do not have so far to go to complete final design."

Criteria for Army Standards

The construction program document guiding the Army in its vast building activity outlines these general criteria for the development of standards:

1. To prepare standard plans and specifications for repetitive type, permanent, modified emergency, and emergency structures - other than hospitals - which are considered an integral part of Army installations in order to meet present, and mobilization requirements.

2. To prepare folios of definitive drawings of other buildings for guidance in design and construction.

3. To determine by investigation the possible value of new building materials, prefabricated systems, construction methods and techniques, and native material available in quantity for military use.

Under all the guiding principles set out in the document, the Army plans to undertake advance design of all projects to be constructed in the continental United States and overseas areas in fiscal 1958 and future years, it was indicated.

Research Activities Included

A broad field of research is apparent in the continuing and planned investigations and studies included as part of this advance preparation. The purposes outlined here include:

1. To study soils, their bearing qualities and peculiarities, and develop design methods which will permit foundation construction for permanent structures, roads, airfield and heliport pavements at a minimum cost and satisfaction of load requirements.

2. To study and develop methods to prevent destruction of or damage to buildings, pavements, railroads, and other structures from climatic changes.

3. To study and develop criteria for drainage design and construction methods based on world wide rainfall intensity and runoff characteristics.

4. To continue the correlation and analysis of test data for application and development of design criteria for ventilation, air conditioning, and moisture control in underground structures.

5. To continue evaluation and application of the effects of atomic explosions on structures through field and laboratory tests and investigational programs and to improve criteria, methods and procedures for the design and construction best suited to provide protection against atomic explosion and radiological fallout at minimum costs.

6. To continue study, evaluation, and

application of test and laboratory data on the resistance of construction materials and structures against the contaminating effects of atomic, biological, chemical, and radiological warfare toxiological agents; to develop protective coatings and other measures which will minimize the effects of such agents; and to establish operational techniques for the protection, decontamination, and rehabilitation of military installations.

7. To provide general engineering services to all echelons of the Department of the Army through engineering studies, surveys and analysis.

8. To continue to develop means for forecasting materials requirements, and statistical and analytical data for alloting, accounting, and reporting under the Defense Materials System.

Master Planning Objectives

The master planning phase of this comprehensive Army approach to its construction problems embraces the development and maintenance of plans to assure that future development of permanent installations will be orderly, sound, efficient, and economical; that existing facilities are adapted to their most efficient use; that additional permanent facilities are provided in the order of priority dictated by the needs, functions, and mission of the installations; that plans are developed for the expansion of existing installations in the event of an emergency and that emphasis is placed on those installations whose missions warrant early priority of completion of their general site plans.

Other objectives:

1. To prepare or revise general site plans of overseas permanent installa-

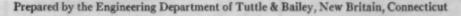
2. To prepare and review detailed site plans for current construction projects.

3. To make available to responsible commanders, for services within their jurisdiction, the panel of three consultants which has been used continuously since 1949 in lieu of additional personnel at each installation or command.

5. To prepare essential planning documents for 70 nonpermanent installations in Europe and Japan.

The nearly \$10 million in advance planning funds was sought by the Army to support an anticipated construction program of approximately \$500 million in fiscal 1957.

Practical Data on Air Distribution





Selecting the Throw

As a service to those responsible for specifying air distribution equipment, Tuttle & Bailey will publish a series of technical articles on this all-important phase of heating, ventilating, and air conditioning systems. It is hoped these articles will be of help to the newcomers in the field and serve as "refresher" information for others.

By definition, "throw" is the distance or radius in feet that an air stream travels from its point of discharge to a point at which a desired terminal velocity is reached. Determining the correct throw for an installation of ceiling diffusers or sidewall grilles and registers is a matter of careful analysis of job conditions and application of the following basic principles.

Ceiling Diffusers

The terminal velocities recommended below are necessary to provide satisfactory performance because of the rapid rate of temperature and energy equalization provided by the circular air pattern.

> 100 FPM Terminal Velocity 30 FPM Average Residual Velocity

Recommended where people are located adjacent to walls of structure for extended periods of time at sedentary occupations:

Private offices Residences
Apartments Hotel bedrooms
Hospitals, Private rooms, and Wards

150 FPM Terminal Velocity
50 FPM Average Residual Velocity
Recommended where people are not located adja-

cent to walls of structure for extended periods of time:
General offices Department stores
Restaurants Clothing stores
Theaters Operating rooms Churches

200 FPM Terminal Velocity
70 FPM Average Residual Velocity
Recommended where people are not located adjacent to walls of structure at any time:
Industrial plants
Corridors

Process areas

All other factors being equal, the use of different terminal velocities will affect the throw of a given size diffuser when handling a given CFM, and also the residual velocities in the occupied space. For example, if a diffuser with a 9' throw at 100 FPM terminal velocity is selected when the measured throw is 12', the remaining 3' will be properly conditioned although the terminal velocity at the 12' point will be lower than that originally chosen for the installation. The residual velocity will also be somewhat reduced. In cases where the measured throw is somewhat less than that provided by the selected diffuser, results will be satisfactory even though the terminal and residual velocities at the end of the measured throw will be higher than that originally selected.

Most diffusers are installed in rooms with ceiling heights of 8' to 12' and this variation will not affect diffuser selection. However, when ceiling heights are above 12', a corrected procedure should be used:

- 1. Measure distance from diffuser to nearest wall or opposing air stream.
- 2. Measure distance from ceiling to a point 12' from floor. Add to the distance in Step No. 1, 75% of the difference between the actual ceiling and the 12' height.
- 3. Use this value as the total throw and select diffuser for desired terminal velocity.

For installations with excessive ceiling heights, it is advisable to increase the CFM per diffuser and use fewer diffusers. For ceiling heights below 9', it is advisable to reduce the CFM per diffuser to a minimum and use more diffusers.

Grilles and Registers

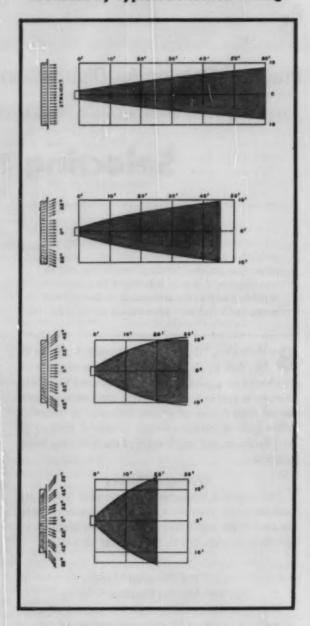
Unlike ceiling diffusers, grilles and registers have a comparatively low induction rate. The air stream moving in just one direction induces room air into the primary stream which means room air must be replaced by non-induced room air. This causes a counterflow residual air movement about equal to terminal velocity. As ideal residual air motion is 50 FPM or less, terminal velocity should not exceed 50 FPM and grilles should be sized on that basis.

When selecting grilles and registers, keep these points in mind:

- 1. The throw from a straight-flow grille varies with the square root of the core area of the grille and with the face velocity.
- 2. The ratio of height to width has no appreciable effect on the distance of the throw from grilles where the ratio is less than 25:1.
- 3. If air streams from a grille are converged, it results only in reducing the effective area of the grille.
- 4. Breaking the air stream into jets has no effect on the rate of mixing or the throw.
- 5. Deflecting the air stream by turning the vanes outward to increase the spread, shortens the throw, depending on the degree of deflection.
- 6. The drop for a given throw varies about inversely as the face velocity for an air stream below room temperature and varies directly as the temperature differential.

In locating grilles, it is important to visualize the air patterns which various deflection settings produce. The patterns illustrated at right are based on a 24" x 6" grille. Grilles should be spaced so that edges of the streams from adjacent grilles do not meet before the stream has traversed over 50% of the required throw, otherwise undue turbulence in the occupied zone will result.

Air Patterns
Produced by Typical Deflection Settings



If you have a specific problem involving air distribution, Tuttle & Bailey's Engineering Department will welcome the opportunity to be of help. Address: R. D. Tutt, Chief Engineer, Tuttle & Bailey, New Britain, Connecticut.

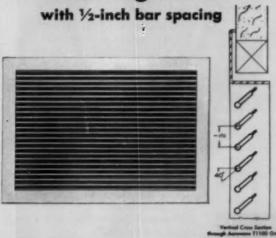


NEW PRODUCT NEWS from



Aerovane

return air grilles and registers



This new design for the Aerovane line features horizontal bars set at an angle of 40° on ½-inch centers...a modern, streamlined appearance that virtually eliminates objectionable seethrough. Aerovane T110D Grille is illustrated above... Aerovane T117D Register combines grille and adjustable opposed blade damper unit.

For full information, write for Bulletin 201.

No. 6 Type TFD volume control damper insures positive, quiet operation

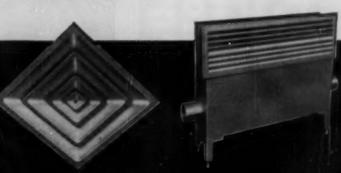


Designed for use with T&B AEROFUSE Ceiling Diffusers where short coupled connections are required. Unit consists of a single blade damper hinged to an adjustable bar grid. Damper setting is regulated through the face of the diffuser by means of an operator handle and rod which may be kept permanently in place or used as a removable key.

For full information, write for Bulletin 112.



A complete line
of air distribution equipment and accessories
for low and high pressure systems



R.A.I.C. ELEVATES FIFTEEN TO COLLEGE OF FELLOWS

The Royal Architectural Institute of Canada has announced the elevation of 15 of its members to Fellowship in the institute. Geographically, the new Fellows cover the nation from coast to coast: three are from Vancouver, two from Victoria, two from Edmonton, two from Toronto, two from Montreal and one each from Hamilton, Ont., Windsor, Ont., Quebec and Halifax.

The new members of the College of Fellows, who were to be installed at the annual assembly of the R.A.I.C. in June, include: Thomas Gordon Aberdeen, Vancouver; Patrick Birley, Victoria; Richard Ernest Bolton, Montreal; Allan Ferguson Duffus, Halifax; George Norris Evans, Vancouver; Edouard Fiset, Quebec; J. Albert Larue, Montreal; Charles Lenz, Hamilton, Ont., George Y. Masson, Windsor, Ont.; Douglas G. W. McRae, Toronto; Earle C. Morgan, Toronto; John Ulric Rule,

Edmonton; Percy C. Underwood, Vancouver; and John Howard Wade, Victoria.

At the same time that it announced its list of new Fellows, the R.A.I.C. announced that it had awarded its 1956 Allied Arts Medal to Lionel A. J. Thomas. Mr. Thomas, who is on the faculty of the School of Architecture at the University of British Columbia, works in a variety of mediums; some of his works have included a mural on canvas for the Mercantile Bank of Montreal at Vancouver; copper doors for the Church of Our Lady of Perpetual Help, Calgary; furnishings of the aviary at the Vancouver Zoo; a large figure for the Church of Our Lady of Assumption, Edmonton: doors, murals, altar fronts and Stations of the Cross for the Chapel of St. Thomas More College, Saskatchewan; and a large mural for the Vancouver Public Library.

The College of Fellows Scholarship for 1956 has been awarded to David Ernest Horne of Toronto. The scholarship, which is awarded every other year to a graduate of a Canadian school of architecture, is to be used for travel, study or research; its value was increased this year to \$2000. Mr. Horne, who graduated in 1955 from the School of Architecture at the University of British Columbia, will use the scholarship for work on his Master's degree in architecture.

GOVERNMENT ESTABLISHES HOUSE DESIGN COUNCIL

The Federal Department of Public Works has formed a Housing Design Council, it was announced recently by Hon. Robert H. Winter, Minister of Public Works. Discussing this action, Mr. Winter said, "Economic competition alone will make it necessary for house builders to widen their market through improvement in the design of housing. . . . The industry may have difficulty in making full use of its present capacity without that stimulus to demand that would be afforded by some distinguished improvement in the design of new housing."

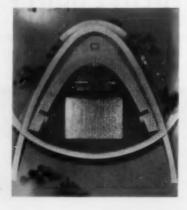
Chairman of the council will be R. C. Berkinshaw, Toronto industrialist. Other members will include Frank Nicolls of Victoria, Prof. J. A. Murray of Toronto, and Prof. John Bland of Montreal, all architects. Andrew Hazeland, Central Mortgage & Housing Corporation's advisor on house design, will be secretary-treasurer.

This move on the government's part is perhaps part of a more wide-spread desire to raise the standard of house design. J. S. Hodgson, director of C.M.H.C.'s development division, in a recent address before a federal-provincial conference of housing authorities, suggested that "over the next five years those who do not provide the best quality of house will find themselves against the wall. Stereotyped housing divisions are out. Housing design will make major forward strides in the next five to 10 years."

On a provincial level, the Ontario Association of Architects has established a Small House Design Committee under the chairmanship of R. Stirling Ferguson of Ottawa. The expressed aim of the committee is "to study the quality of design of small houses built in *Ontario since World War II and *all influences affecting that quality. Specificant of the continued on page 40)



MEMORIAL SWIMMING POOL, designed for North York Township, Ont., by architects Venchiarutti and Venchiarutti, will have a structure of concrete parabolic arches forming compression rings from which will be hung a network of lightweight steel tension cables. The frame will support a corrugated steel roof. About 1100 people will be sealed in the stand around the swimming pool, and an additional 500 seals could be provided by removable chairs. Other facilities will include a therapeutic pool, which can be entered directly from the outside, a committee room and a manager's office





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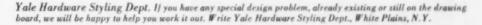


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traditional rugged construction in the lockset. The New Yale 5200 Series of Residential Tubular Locksets have genuine beauty and are engineered far beyond their economical price. In addition to the exclusive Yale artistry and functional features, architects favor Yale Locksets for their utter dependability of performance. Architects know they're right when they pick Yale for quality, and we know they're up-to-date when they pick Yale for design.





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CLASSIC KNOB NEWPORT TRIN



YALE & TOWNE

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THE RECORD REPORTS NEWS FROM CANADA

(Continued from page 36)

cally: (a) the processes and administrative procedures by which design is carried out; (b) design of small houses in other parts of the world; (c) the community as well as the individual aspects of designs; (d) the economics of design; and (e) building regulations and other standards which affect design. '



A \$2 million library for Vancouver, for which Semmens & Simpson are the architects, will be built on a three fl module, the width of slandard bookcases; louvers will be controlled by photoelectric cells

A NEW HAWS **FOUNTAIN IN**

iberglas



decorator colors*...and white



Designed by : CHANNING WALLACE GILSON

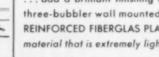
The striking lines of HAWS Model 10Y fountains,

in your choice of complementary color* at no extra charge ... add a brilliant finishing touch to your design. These three-bubbler wall mounted models are constructed of REINFORCED FIBERGLAS PLASTIC...the modern strength material that is extremely light in weight!

Model 10Y contains all of the HAWS advanced sanitation features. Angle stream fountain heads are raised and shielded, and are VANDAL PROOF mounted on receptor. Valves have automatic stream control and are self-closing. All exposed trim is chrome plated.

Take your choice of color* . . . and design this beauty into

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your next school job. It's easier to install and built for a lifetime of sanitary service.

MODEL No. 10Y com-

plementary colors: Cer-

ulean, Pistachio, Coral

Accent, Yellow Mist,

Gray Satin, and Petal

White

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STATISTICS BUREAU TAKES MID-YEAR LOOK AT BUILDING

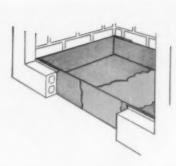
In a recent report, the Bureau of Statistics has estimated that the value of Canada's 1956 construction program will rise to a record \$6271 million. This would be an increase of 19 per cent over the 1955 total of \$5286 million. It is expected that nearly all the increase will be in industrial building and engineering construction, such as the St. Lawrence Seaway and the gas pipeline from Alberta to the west coast. Residential building will probably remain at about the 1955 level.

Increases in value of construction are (Continued on page 44)

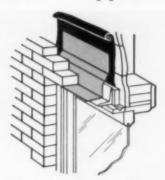


Office building proposed for Calgary will have parking facilities on the open ground floor and in the basement. J. Stevenson & Associates are the architects

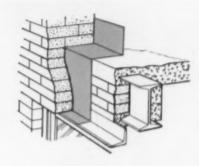
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Door and window flashings of "Electro-Sheet" bonded to building papers seal against air infiltration and moisture penetration.



A low-cost, easily installed product giving the lasting protection of copper is widely used for spandrel beam flashing, to prevent seepage of water.

COPPER has proved itself a lasting barrier to water and water vapor over many, many years. It doesn't rust and it resists most forms of deterioration which impair the protective value of other materials.

Therefore it is an ideal material for flashing and dampproofing which must be built into a structure or buried—concealed flashing that should last the life of the building.

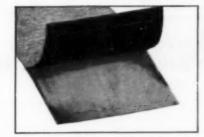
Making a little copper go a long way. Anaconda's development of "Electro-Sheet" made the use of copper in these hidden places practical and economical in all types of building. "Electro-Sheet" is pure thin copper produced in long, wide rolls by electrodeposition in weights of 1 to 7 ounces per square foot. It is furnished to manufacturers who bond it to high-grade building papers and fabrics, or coat it with asphaltic compounds.

Easy to handle and apply. These flashing products incorporating "Electro-Sheet" are extremely flexible, easy to handle and are furnished in rolls up to 60" wide. They are available through building supply dealers throughout the United States and Canada.

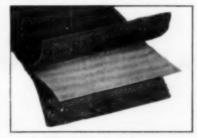
For more information. If you wish more information about ANACONDA "Electro-Sheet," or want a list of manufacturers using it in their products, write: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

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- DRAFT|STOP, the first unit ventilator to eliminate window downdrafts—without increasing heat load.
- LIGHT STOP, the first accessory to adapt the unit ventilator to audio visual classrooms.

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 HerNel-Gool first AIR CONDITIONING UNIT designed, built and priced specifically for schools. Senior High School, Grand Island, Nebraska. Superintendent of Education: Dr. Earle Wiltse; Architect: F. N. McNett Company; Engineer: R. L. Fickes; Machanical Contractor: J. L. Lingeman Company. The design resembles a human hand, with the administrative areas concentrated in the "palm" and classrooms extending down the four fingers.

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Air Conditioner for schools

dollar with DRAFT STOP!

Controls drafts without added heat load

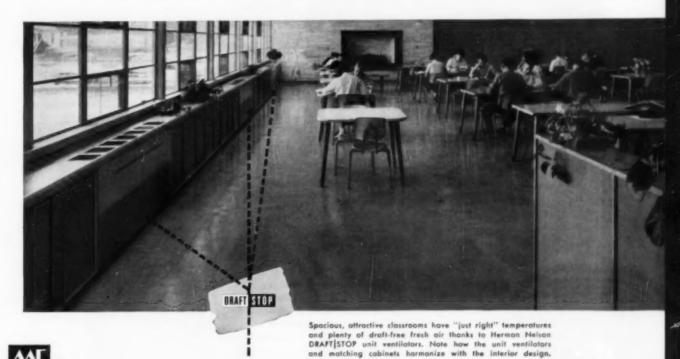
The new Senior High School at Grand Island, Nebraska is recognized as an architectural and engineering "jewel". The finest, most modern equipment combines with excellent planning to create the last word in educational facilities.

It was natural that DRAFT|STOP was selected for the all-important job of cooling, heating and ventilating the classrooms. DRAFT|STOP heats only when heat is necessary . . . saves fuel when it is not. It controls downdrafts without added heat load. It's unique design provides a constant supply of properly beated or cool fresh air . . . automatically

compensating for temperature changes. Pupils are alert and comfortable from the opening of school to the closing bell. Teachers are free to concentrate on teaching-in a healthful atmosphere that is conducive to learning.

That's why there is an ever increasing demand for more classroom comfort per dollar . . . the DRAFT|STOP way! Want more facts? For a 16 page case study, write to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., Louisville 8, Kentucky.

*Patented (there are no substitutes)



herman nelson AMERICAN AIR FILTER COMPANY, INC. UNIT VENTILATOR PRODUCTS

System of Classroom Cooling, Heating and Ventilating











NEWS FROM CANADA

(Continued from page 40)

anticipated in all provinces and all industries, with the exception of the construction industry, where value is expected to decline 11.2 per cent.

Value of new construction is estimated at \$5161 million, up from \$4273 million in 1955. Repair construction is expected to rise in value to \$1110 million from



New plant for Vampeo Aluminum Products Inc. is nearing completion at Strathroy, Ont. The architect is J. Fred Green of St. Thomas

KILNOISE acoustic plaster specified for modern Cox's Department Store by Celli-Flynn, Juc.

KILNOISE acoustic plaster meets every rigid requirement of Celli-Flynn, as evidenced not only by the above picture, but also nine other recent installations of theirs, including schools, churches, residences and commercial buildings.

Mr. Robert M. Cox, the store's owner, said: "I'm glad Celli-Flynn specified Kilnoise for my new building . . . I am very happy with it."

You can find every desirable quality in Kilnoise, the finest of acoustic plasters: a proper Noise Reduction Coefficient of .60 . . . high moisture resistance . . . complete fire-retardance . . . easy, quick cleanability . . . and smooth painting surface.

MCKEESPORT, PENNSYLVANIA

Impressed Designs, on walls or ceilings, were first and most effectively used on Kilnoise . . . employing floral, emblematic, geometric and contemporary devices to add decorative smartness to interiors of institutional, commercial or residential buildings.

For perfect applications of acoustic plaster, always specify KILNOISE. Tiger Products Division of Basic Incorporated, Cleveland 15, Ohio.

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CILNOISE

ACOUSTIC PLASTER

\$1012 million. New construction by contract, it is estimated, will increase to \$4359 million from \$3598 million, and repair construction to \$439 million from \$409 million. Construction by firms not primarily engaged in building is expected to rise to \$1473 million from \$1279 million.

SCHOOLS OF ARCHITECTURE MAKE THEIR ANNUAL AWARDS

At the École des Beaux-Arts in Montreal, the School of Architecture announced that in the final judging of the work of graduate students, two were tied for first prize — Romeo Savoie for "An Artistic and Cultural Center for the University of St. Joseph," and Jacques Carriere for "An Athletic House and Park." Second prize went to Guy Legault for "A Kindergarten," and honorable mentions were awarded to Pierre Cantin, Denis Lamarre and Guy Blain.

At the School of Architecture, University of Toronto, prizes for the 1955-56 sessions also have been awarded. In the fifth year: R.A.I.C. medal - C. E. Meek; Anaconda American Brass Ltd. Scholarship - J. W. Ridpath; Toronto Architectural Guild gold medal — R. L. Craig; Connolly Marble, Mosaic & Tile Co., Ltd., scholarship - J. W. Ridpath. In the fourth year: Canadian Pittsburgh Industries Ltd. scholarship - first, C. A. Corneil and tied for second, A. G. Zimmerman and J. F. Gallop; Argo Block Ltd. scholarship - C. S. Corneil. In the third year: Toronto Brick Ltd. prize - first, V. Petruis and second, J. J. Nowski: Ontario Association of Architects prize - J. J. Nowski. In the second year: Booth Brick Co. Ltd. prize - G. A. MacInnis; O. A. A.

(Continued on page 46)



Another AWARD WINNING SCHOOL with

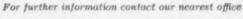
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It has 20 classrooms, 4 in each of five buildings. Ideal temperature and proper ventilation for effective teaching and learning is obtained by a Powers thermostat in each room. It controls a mixing damper at the forced warm air furnace type unit. Each classroom building has two such units.

In the main building, the cafeteria, library and auditorium are served by heating and ventilating fan units. Similar units serve the gym. Administration areas, shower and locker areas are served by multizone heating and ventilating units. A central boiler plant provides steam for heating and ventilating units in all areas except classrooms.

Are You Planning a New School or modernizing an old one? Ask your architect or engineer to include a Powers Quality system of temperature control. They've been time-proved dependable in thousands of schools since 1891. You will insure comfort and fuel savings at lowest upkeep cost.



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NEWS FROM CANADA

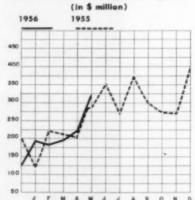
(Continued from page 44)

Scholarship — C. B. Millar; Atlas Asbestos Co. Ltd. — first, J. T. M. Fusco and second, E. W. Pollitt. In the first year: Turnbull Elevator Co. Ltd. scholarship — J. M. Hanley.

NEWS NOTES

The Nova Scotia Association of Architects held its annual meeting at the Lord Nelson Hotel, Halifax, on May 18. . . . A Committee on Professional Ethics has been appointed by the Ontario Association of Architects; the chairman is Norman H. McMurrich. . . . Housing starts rose 6.5 per cent during the first four months of 1956, completions were up 3.5 per cent and units under construction were up 5.4 per cent. . . . J. P. Bastien, Montreal, since 1944 architect for the Quebec Department of Public Works and consulting architect to the provincial Department of Public Instruction, has retired due to ill health. . . . Deacon & Arnett, architects and planning consultants. Toronto, announce that Bruce R. Murray has been admitted to partnership; new offices are located at Sheppard and Pharmacy Aves., O'Sullivan P. O., Ont. . . . Hazelgrove, Lithwick & Lambert is the new name of the Ottawa firm of Hazelgrove & Lithwick, which has announced the admission of Martin J. Lambert to partnership. . . . O'Gorman, Fortin & Baleshta is the title of the architectural partnership recently formed by H. W. O'Gorman, Yves Fortin and O. J. Baleshta of Sudbury, Ont.





* Compiled by the editor and staff of The Building Reporter, from information collected by MacLean Building Reports

(More news on page 48)



POST OFFICE JOB DEFINED; FIRST 27 PROJECTS LISTED

The architect's services in the Post Office Department's lease purchase projects have been outlined in a procedures and documents brochure recently issued by the Department.

The brochure explains exactly what the architect engaged by the Department must provide in the way of services.

It also explains how he will be paid in four installments, none exceeding 40 per cent of the total fee. The first payment will be 35 per cent, upon the government's approval of preliminary plans and specifications. The second will be 40 per cent, paid upon completion and approval of the final detailed working drawings and specifications. Third payment will be 20 per cent, "payable from time to time" during construction and in proportion to progress of the job. The last payment will be in the amount of five per cent on final completion and acceptance of the building and the delivery by the architect of his release of any claim arising under or by virtue of the contract.

Professional services, said the Department, will include:

- 1. Conferences in Washington, D. C.
- Preparation of preliminary plans and specifications, in triplicate, including the architectural, mechanical, structural, electrical, ventilating-air conditioning, heating, plumbing, site planning and landscape work.
- One colored rendering and six black and white photographs (10 in. by 14 in.) showing the proposed exterior design of the project.
- Furnishing of estimates together with comparative design and cost analyses of various methods of construction.
- Preparation for the government of 12 sets of final specifications, and a final detailed estimate.
 - 6. Certification of any and all shop (Continued on page 330)



NEW HEAD OF PBS—F. Moran McConihe, the new Commissioner of Public Buildings, is a reallor by profession and had been since February 1 of this year Special Consultant to the President charged with developing plans for eliminating those oft-altacked, seldom-vanquished "tempos" from the Washington scene. In private business, he was executive vice president of the Washington, D. C., realty firm of Randall H. Hagner and Company. Mr. McConihe succeeds Peter B. Strobel, New York consulting engineer, who resigned last fall



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LIBERTY UNION HIGH SCHOOL Basil, Ohio Architect A. H. Maellenkamp Contractor: The Alley-Davis Co.



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ARCHITECTURAL RECORD

WESTERN SECTION

Western Editor:

ELISABETH KENDALL THOMPSON

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POLITICS, PROFESSIONS AND THE PUBLIC INTEREST

What do you think?

Discussion and comment on the editorials and letters on this page are invited. Send them to the Editor, Western Section, 2877 Shasta Road, Berkeley 8, Calif.

As this issue was going to press word arrived that SCA 6 will appear on the November ballot as proposition number 10. Encroachment — making inroads on another person's province — is bad enough when it harms an individual but it is worse when it hurts many individuals. The threat of an encroachment which directly involves architects and architecture in California is just now beginning to be generally known; but before summer is over the State will be fully aware of what impends. The threat hangs over California, but the same thing could happen anywhere — anywhere there is a movement to persuade the public that it is better served by an expanding bureaucracy than by individual endeavor.

When California voters go to the polls in November they will face important decisions not only on national matters but on a local situation where their votes can have far-reaching, long-lasting and expensive results. They will be asked to vote on a measure, known up to now as Senate Constitutional Amendment Number Six, which asks that the State of California be permitted to employ private architects and engineers on State work when the load becomes too heavy for the existing State staff in the Division of Architecture to handle in the required time.

SCA 6 is a simple permissive amendment, the common sense of which was overwhelmingly approved by both houses of the Legislature last year. But its path to adoption is destined to be stormy and it is threatened already by vociferous claims that SCA 6 is aimed at undermining civil service and so threatens the jobs of all civil service employes. The facts contradict this position.

SCA 6 is no negativistic proposal. It is positive, constructive in the fullest sense. It aims to protect the State's standards of performance by making it possible for the State to avail itself of the services of private architects and engineers in California when they are most needed: when bottlenecks occur due to the shortage of qualified personnel in the Division. Private architects and engineers cannot now be called in on a job because of the wording of the present civil service act which states that no contracts can be made with private firms if the State has already hired personnel to do the work.

This means that at peak times more persons must be hired to get the work done; at slack times these become a stand-by force, increasing the size of the State's permanent staff. But the State has had a hard time getting the people it needs for its large postwar building programs. In the last eight years it has carried on a constant recruitment throughout the United States, but it still has a shortage of properly qualified architects and engineers — in the face of an expanding population and continually growing needs for public buildings of all kinds.

To offset the propaganda against SCA 6 which soon will be blasted from one end of California to the other, members of four professional groups have formed a committee to obtain funds to acquaint the public with the facts about the amendment through television, radio, billboard and advertising space. The groups are the California Council of Architects, Structural Engineers Association of California, California Council of Civil Engineers and Land Surveyors and Consulting Engineers Association of California. This marks the first time that architects have engaged in so widespread a campaign to bring the public their side of a controversial question. It will be expensive — but it is essential.

Architecture is a social art. But it cannot be socialized and remain an art.

What do you think?

- E. K. T.

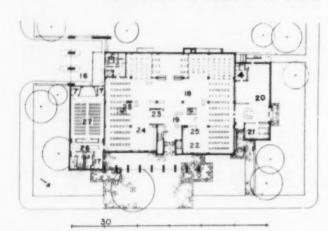
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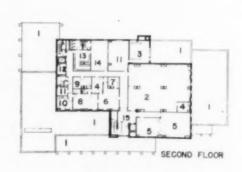


"A building genuinely expressive of El Paso and the Southwest" was prime program requirement. Also required informal, level entrance to main floor, provision for 30-year growth to 395,000-book ultimate capacity. Building cost \$816,165

Julius Shulmon

EL PASO BUILDS A NEW LIBRARY BUILDING El Paso, Texas









Circulation desk is located in main reading room, with catalog and circulating book stacks near by, so that adequate supervision and control is possible with limited number of personnel. Right

main reading room has no windows, low ceiling height makes possible ample artificial light, air conditioning protects, preserves books in very dry climate, provides comfortable work atmosphere

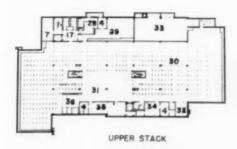




Local materials, simply handled, and restrained use of indigenous folk art derivatives characterize building Portico leads to lecture-exhibition hall entrance independent of main library entrance

Southwest Room, on main floor, houses Library's collection of Southwest material. Tom Lea, El Paso artist-author and library board member, has just finished mural for back wall from grill protects collection but simplifies supervision from desk

Carroll and Daeuble, Architects, Alfred Morton Githens, Consulting Architect



LEGEND

- ROOF
- CATALOGING DEPT. COOLING TOWER
- OFFICE
- MEETING ROOM
- BUSINESS OFFICE
- STORAGE
- LIBRARIAN'S OFFICE
- QUIET ROOM
- 10. EXHIBIT PREP
- 11, EQUIP, ROOM 12. PRINTING
- 13. WOMEN'S LOCKERS
- 14. STAFF ROOM
- 15. LOBBY
- 16. LOADING PLATFORM
- 17. VESTIBULE
- 18. READING FIM. 19. DESK

- 20. BOYS' & GIRLS' RM
- 21. PARENT-TEACHER'S ROOM
- 22. YOUNG PEOPLE
- 23. CARD CATALOGUE
- 24. ART & MUSIC
- 25. BOOK LIFT
- 26. EXHIBIT, HALL
- LECTURE HALL
- CUSTODIAN OFFICE
- 29. BRANCH WK. RM.
- 30. UPPER STACKS
- 31. PERIODICAL READING
- 32. STUDY CARRELS
- 33. UPPER BOILER RM
- 34. CIRCULATION WK.
- REFERENCE WK, RM 36. LISTENING CARRELS

BOTH THE LIBRARY BOARD and the architects for the new El Paso Library building were agreed that it should be something more than a shelter for books and a pleasant place to read. They wanted the building itself to be expressive of El Paso and the Southwest and they wanted its facilities to meet the city's need both for a new library building and for a downtown center of cultural activity.

The simple masses of the building, with its walls of Texas shell limestone, its piers along the entrance portico of local fieldstone, and the Indian motifs which enrich the portico ceiling as well as interior and exterior mouldings, derive from indigenous architectural forms, materials and folk art and are used as an expression of the locality. The lecture and exhibition hall is in constant demand for community use, and the special meeting rooms serve a long-felt need. In the hot, bright sunshine of the Southwest large glass areas are always a problem. requiring special protection from heat and glare; since this building was to be completely air conditioned, it was decided that windows, except in office areas, would be unnecessary.

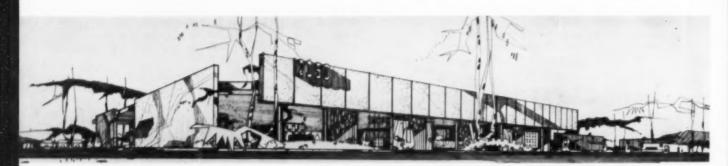
The sloping site — 11 ft from northwest to southeast lent itself to a split-level plan which made possible the required level entrance to the main floor. Below are two floors for stacks, periodical room, special services and mechanical equipment; above are more stacks and staff work areas. When the old building, built 50 years ago, is torn down its site, adjacent to the new building, will provide parking.

WESTERN BUILDINGS IN THE NEWS



Engineering Company's Research Laboratory

Hunter Engineering Company's recently completed \$4,500,000 research laboratory at Riverside, Calif., is one of 23 winners of Factory Management and Maintenance magazine's special awards as a "Significant Plant of the Year" Pereira & Luckman are planners, architects and engineers



Shop and Office Buildings

First unit in a long range program of development for a shop and office building in West Los Angeles will be this one-story structure now under construction. A Quincy Jones and Frederick E Emmons are architects and site planners

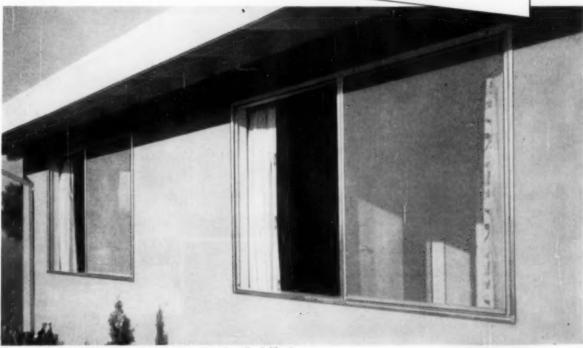


Business Forms Company's New Plant

Patios and outdoor eating areas for employes at the Moore Business Forms Company's new plant are special features of the building, now under construction on a 10-acre site at Fullerton, Calif. The steel-framed, tilt-up concrete building also contains production facilities, warehouse, press rooms, general offices and kitchen. Daniel, Mann, Johnson & Mendenhall are architects and engineers

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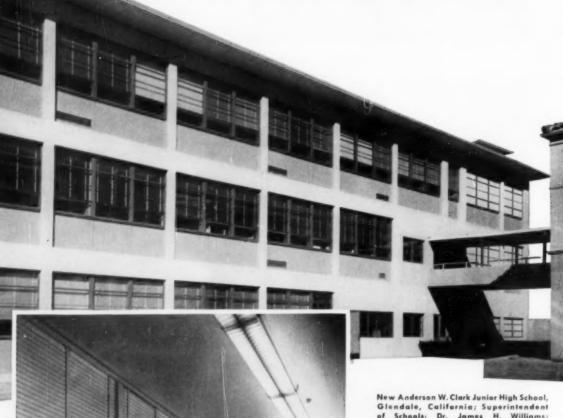
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New Andersen W. Clark Junior High School, Glendale, California; Superintendent of Schools: Dr. James H. Williams; Architects: Risley & Gould; Consulting Mechanical Engineer: Edward E. Gould.

LOW-COST COMBINATION. Amervent units and venetion blinds combine to provide temperature and light central at minimum cost. This combination was \$16,000 less than the minimum system of heating plus external louvers.

AT A SAVING



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A series of money-saving innovations assured Glendale's new Anderson W. Clark Junior High School attractive functional design and quality equipment within a minimum budget.

One of these was the selection of Amervent cooling, heating and ventilating units. When the choice had narrowed to Amervent, convectors and radiators with light control components, all three were rated on performance and desirable building maintenance characteristics. The Amervent combination walked off with eight No. 1

ratings out of the ten categories!

That left no doubt as to the best system, but what about cost? Once again, Amervent took top honors — \$16,000 less than other considered combinations! With Amervent, and only with Amervent, could venetian blinds (instead of expensive exterior louvers) be used to offset solar heat gain.

Get all the facts on Amervent, the fresh air cooling, heating and ventilating unit designed exclusively for Mild Climate Areas. Use the coupon.





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City	State								





FORM FOLLOWS FUNCTION IN A STORAGE BUILDING

THE FORM OF the new storage buildings which Kaiser Gypsum Company, Inc. has built at Antioch and Long Beach, Calif., literally follows the shape of the goods to be stored in them. The structures cover, and protect from wind and rain, piles of loose gypsum; the domed form of the building results from the shape of the pile of gypsum.

Since each pile consists of 35,000 tons of gypsum, the buildings are of considerable size. They are 70 ft high and 175 ft in diameter. Gypsum is brought by conveyor from nearby dock facilities and poured into the building through an opening on top.

Besides minimizing waste space by following closely the shape of the pile the structures are of considerably lighter construction by reason of their domed shapes. The structural system consists of radial beams, circular rings and diagonal bracing. Bracing and ring connections are welded.

Corrugated aluminum sheathing covers the steel frame and contributes to the light construction of the buildings.

EXHIBIT HALL FOR S.F. UNDER CIVIC CENTER

With the example of its Union Square garage to guide it, San Francisco is about to embark on another underplaza structure, this time an exhibition half under Civic Center plaza. Union Square garage was the first such underground public parking garage and was completed just after the beginning of World War II.

"Mole Hall," as the exhibition half has been dubbed by residents (who earlier gave the name "Cow Palace" to the huge hall where the Republican national convention will take place this summer) will be completely underground, with ramps, stairways and moving stairways as means of entrance and exit. Two moving stairways and a stairway will connect the hall with the Civic Auditorium so that convention-goers who attend meetings at the auditorium will not be greatly inconvenienced when they want to view exhibits on display in the hall.

The exhibition hall had become a necessity as a means of attracting conventions to the city. The big tent in the plaza, which had been erected as a means of providing display space, did not work out well. If the weather was hot, it was hotter in the tent. If it was foggy and cool, it was too cool in the tent.

Since an addition to the auditorium was out of the question, the only place for expansion was under the plaza.

As designed by a group of architects and engineers associated on the job (Skidmore, Owings and Merrill, Wurster. Bernardi and Emmons, architects: DeLeuw, Cather & Co., Chicago engineers and planners, and Henry J. Brunnier, San Francisco consulting engineer), the hall will cost \$3,275,000 to build and will take 18 months for construction.

Approval of the exhibit hall under the south side of the Civic Center plaza has opened the way for possibility that a badly needed public parking garage may be built under the north end of the plaza.

KAISER EXPANDS ITS FONTANA STEEL PLANT

Production of steel at the Fontana, Calif., plant of Kaiser Steel Corporation will be increased by 40 per cent when the expansion program now under way is completed in 1958, according to company officials. A recent steel shortage on the West Coast prompted Kaiser to initiate the program which it hopes will spur other companies to similar programs. Kaiser's program, termed one of the largest ever to be embarked on in the West, will cost \$113,000,000.

Financing of the program will be by bond issue in the amount of \$70,000,-000, promissory notes for \$30,000,000, and \$13,000,000 of the company's own

The new unit will produce structural steel, sheet steel and steel and tin plate. In line with its present policy of minimizing the plant's air pollution potential, the new unit will be equipped with electrostatic precipitators to control and reduce stack emission to below minimum requirements in the Fontana area.

U. S. BUILDING NEW POST OFFICES IN WEST

Although California led the country in dollar valuation of post office buildings authorized for construction, cities in other states will probably outstrip it in size of building. Seattle has the newest large post office terminal building in the West and Denver is scheduled to have a new building of the same general type by 1957.

Seattle's terminal annex and garage, a three-story, \$4,500,000 structure, incorporates the newest means for fast sorting and handling of mail. Loading docks on three sides and a railroad spur on the fourth further expedite mail handling. John Graham and Associates of Seattle were the architects and engineers. (Continued on page 48-10)

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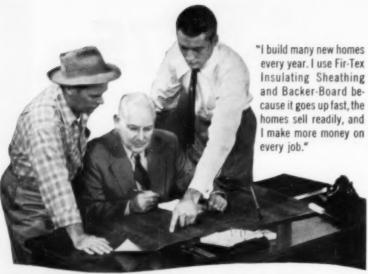
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MOULDINGS

NEW POST OFFICES

(Continued from page 48-8)

Denver's post office annex - authorized but not yet under construction will be built near the Union Station and will provide facilities which the expanding population has needed since the post-war period began. The new building, for which Temple Buell & Company are architects, has been designed to accommodate a factory-type flow-line to speed up mail handling without increasing personnel.

New buildings are also scheduled to be built at Eugene, Ore., and the Seattle-Tacoma airport. The building at Eugene will be an annex to the present post office building. The terminal at the Seattle-Tacoma airport will be connected by tunnel to one of the field's aprons for speedier transportation of mail to and from planes. Only the La Guardia and Idlewild Fields in New York have larger post office terminals than the one planned for Seattle-Tacoma. Young, Richardson, Carleton & Detlie of Seattle are architects for the building

All of the buildings will be constructed on the lease-purchase plan.

STANFORD LEASES LAND FOR PROFESSIONAL UNIT

THE first unit in Stanford University's projected "professional-administrative" development, on land which it does not need for expansion of educational facilities, will be a medical-dental center. The 10-acre site for the building will be leased for 99 years to a group of doctors, dentists, financiers and a contractor by Stanford under its land development program.

Stanford hopes to attract other professional groups, including architects, engineers, accountants, lawyers and investment and insurance companies, to the 50-acre area set aside for such occupancy in the master plan for its land development.

The \$3,000,000 medical-dental center will provide individual suites for the practice of all branches of medicine and dentistry and auxiliary services such as laboratories and X-ray service. A pharmacy, surgical supply store and optician's office will be located in the arcade connecting medical and dental units of the project.

Warnecke and Warnecke of San Francisco and Oakland are architects for the reinforced concrete building. The center is due to be ready by December 1957.



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WESTERN STRUCTURAL

MAY'S BALLOTS WILL BRING NEXT YEAR'S PUBLIC BUILDINGS

Large public nulliping projects will be begun shortly in Los Angeles, San Francisco and Eugene, Ore., as a result of voter approval of bond issues and proposals which appeared on the May ballots in these cities. In two other Western cities — Portland and San Diego — building proposals fared less well: Portland's Exposition-Recreation center received a set-back in the form of a decision against the selected site, and in San Diego the \$8,500,000 bond issue to finance a civic auditorium failed to get the necessary two-thirds majority vote.

"Global Air Harbor" for Los Angeles

Largest of the proposed construction programs authorized in the election is for the expansion of Los Angeles International Airport and for acquisition and development of a ring of heliports around the city. For these projects voters approved a \$59,700,000 bond issue on the promise that these improvements will give Los Angeles a top rating in air commerce and make it the "global air harbor" of the Western United States.

Included in the airport program is construction of a new terminal building to be finished by 1960 when jet passenger planes are expected to be ready for operation. Associated architects for the terminal are Pereira & Luckman, Welton Becket and Associates and Paul R. Williams.

The San Fernando airport will be developed as a terminal for short-haul air lines, air freighters, business and private aircraft. Heliports, strategically located to form a network of airports for the city, will be constructed at five points: San Fernando Valley, Hollywood, East Los Angeles, downtown Los Angeles and the Harbor area.

New Hall of Justice for San Francisco

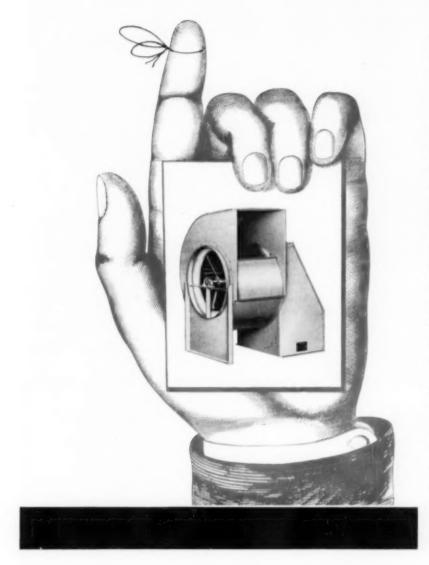
San Francisco's long-needed Hall of Justice will become a reality — soon, if Mayor Christopher has his way — as a result of a vote that was almost two-to-one in favor of a \$19,475,000 bond issue to finance site acquisition and construction. The new building, for which no architect has as yet been named, will be a seven-story structure, large enough to house ten city departments including two county jails and two police stations, criminal court rooms, and offices for the district attorney, public defender, adult probation officer, sheriff and coroner. It will replace the Hall of Justice built in 1912 and for many years inadequate for a city of San Francisco's size and complexity. Location of the new building was not decided by ballot; of several sites under consideration, one at Seventh and Bryant Streets, south of Market Street, was a leading contender.

Eugene's Court House to be First Civic Center Project. In Eugene, Ore., the first big hurdle has been successfully passed in the proposal to give the city a civic center. By better than a two-to-one vote residents of Lane County (of which Eugene is the county seat) said that they want a new court house, and two thirds of the voters said that they want the new building built on the site of the present court house, an overcrowded, no longer efficient and structurally inadequate structure built in 1898.

The decision on construction of the court house was a vindication of the Lane County Board of Commissioners who had commissioned a study for a site for a new building almost three years ago, and had awarded a contract for design of the building to Eugene architects Wilmsen and Endicott a year (Continued on page 48-16)

WESTERN SECTION

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MAY'S BALLOTS

(Continued from page 48-14)

ago. The decision on the site for the new building vindicated the commissioners, the city council of Eugene, the architects and Architects Collaborative, a group of Eugene architects who had worked voluntarily for two years to formulate a master plan for development of a civic center for the city. The master plan located the court house in the position the voters said they would like to see it occupy.

Another vote which will affect the civic center master plan had to do with the new library building for Eugene. The vote was to present three sites for consideration of the voters at the November election. If the civic center site is selected, then the chances of Eugene's realizing its dream of a mall from the railroad station up to Ninth Street, with municipal, county and state buildings fronting on parks, will be good.

Portland, San Diego Projects Deferred

Portland's two-year struggle to get its \$8,000,000 exposition-recreation center under construction appeared to be stymied once again, and in San Diego the long-sought auditorium was relegated to the future.

The Portland voters, asked to decide whether the Exposition-Recreation center should be built on the East or the West side of the Willamette River, voted by a very narrow margin — 303 votes — to put it on the East side, thereby upsetting plans that had been tentatively made for its location at the South Auditorium site on the West side.

Of the dozen or so sites in the Portland area which had been studied independently by Stanford Research Institute, the Portland Planning Commission and Skidmore, Owings & Merrill, architects, the South Auditorium site had apparently the most suitable location for the needs of the center and for its patronage. But the voters thought otherwise and the selection of the site is once again a matter of conjecture. Two East side sites had been considered: the Broadway-Steel bridge site and the Buckman Field site. Either would meet some requirements but could not fulfill the desirable requirement for a location in Portland's downtown business and hotel district.

Pending the outcome of the vote, the Exposition-Recreation commission had acquired no land for the center. Its first choice, the Delta Park center (old Vanport, wartime city which suffered a disastrous flood some years ago), was not available to it because the city refused to transfer it to the park department a necessary step before it could be acquired for the center.

The whole matter of site selection has been tangled with politics from the first. Resignations and replacements on the commission, misrepresentations of facts and charges — on both sides — of unethical practices have not helped to give the project a stable basis.

Most disappointed of all right now are members of the Oregon centennial committee who had hoped to be able to use the new center for the celebration and centennial fair planned for 1959. With the set-back on site selection, the committee doubts that the center will be ready for use by that date.

40-FT HEIGHT LIMIT FOR S.F.'s TELEGRAPH HILL

Telegraph Hill, San Francisco's Bohemia, was dismayed to learn that an 11-story apartment building was to be built on one of its narrow, hilly streets,

(Continued on page 48-20)



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WASTE SPACE

The Shifting Sands of Public Taste

"The expression of straight line geometry in American architecture and interior design is on its way out," reads a press dispatch from the convention of the American Institute of Decorators held recently in San Francisco. Instead, says designer Edward Wormley of New York, there will be a "fresh realization of the architecture of the early part of this century." Ring out the new, ring in the old: the public hadn't even got used to straight line geometry in architecture, let alone accepted it.

Just what was the architecture of the early part of this century? The dispatch didn't say. Of course there were Wright and Sullivan in the Middle West, and Howard and Julia Morgan, and Coxhead and Maybeck and Greene and Greene, Louis Christian Mullgardt and Willis Polk out here in California in the early days of the 20th century; and a little later there was Irving Gill in Los Angeles, introducing the "straight line geometry" to architecture. But there was also the California bungalow, that builder-perversion of Greene and Green's delightful smaller houses; and there were carryovers from the exuberant final fling of the Victorian; and there were the perennial nondescript and undescribable constructions which only their designer could term architecture. Which is this "early work" to which we now return)

I'll take Wright and our Californians but not the nondescripts. But maybe I narrow the field too much, Mr. Wormley further says that designers will be using "the whole world as inspiration instead of limited regionalism." A truly *Interna*tional style, no doubt. Without geometry. And no straight lines.

A Birthright — or a Mess of Pottage?

It's no secret that architecture has two strong factions, one that says it is a profession, one that says it is a business. Their controversy, while not precisely obscure, is not exactly loud. But it is constant, nevertheless.

For a long time there was no doubt that architecture was a profession what's the old gag? well, anyway, it was a profession for a long time—and it seems surprising that it should want to change its status now.

Maybe what is needed is a new perspective. The other day a San Francisco realtor — a businessman — told a group of Seattle real estate men that "the real estate business is not a profession but it could be if those affiliated with it would work toward that end."

Furthermore, he came right out and bluntly stated that the real estate business is "being held back from becoming a profession by the boys who want to make a fast buck." There are words for real estate men and architects to ponder.

A Package Deal with a Time Bomb

A builder in the San Francisco Bay Area is advertising something new: a plan to climinate the "endless conferences with architects, builders and subcontractors." The builder does everything, even supplies a licensed architect "whose style will best fit the individual taste of the buyer," in his judgment of buyer and of architect. But the client need not be wearied with conferring with the architect - he confers with the builder instead. The builder gives a guaranteed estimate "aimed to fit the client's budget." If the client likes the plans and finds the budget right, he signs a contract with the builder and from then on he has nothing more to do with the house except move in - after paying,

For most people the planning of a house is an exciting adventure — a once-in-a-lifetime experience which more often than not ends up by introducing them to a new world — the world of architecture — and client and architect become long-time friends. For architects, the client-architect relationship is the precious stimulus to fresh concepts; the client is to the architect what the audience is to the actor. But this package deal sweeps away this experience, denies the stimulus.

And what about the end product of such a sterilized approach? Can it really provide a "custom house"? Can a client program his house through a third party and have it be the house he wanted? Is this a professional approach to the practice of architecture? Of course not. Nobody but architects themselves can find an answer to the need that such a package deal aims to fill. Stopping it isn't enough. A real answer is needed, and it's going to take some real thinking to find it.

E. K. T.



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LUPTON

METAL WINDOWS AND CURTAIN-WALLS

40-FOOT HEIGHT LIMIT

(Continued from page 48-16)

and in the spirit of the old West, it protested to city officials. Unfortunately, the builders of the apartment building had been issued a permit before the protest, made by individual owners and tenants (including architect George Rockrise) of Telegraph Hill property, and two organized groups was received.

Although hill dwellers lost in the case of the apartment building, they did gain a long-term victory since the publicity given to the opposition to the 11-story building undoubtedly helped along an affirmative vote by the city's Board of Supervisors setting the future height limit for the area at 40 ft.

The City Planning Commission agreed with the Telegraph Hill residents on what the height limit should be, but stated its particular reason as being the fact that the Supervisors were already considering a measure which would limit building height on the hill to the desired 40 ft, and that a new zoning law is in preparation.

The area included in the Supervisors' ruling lies between Union and Montgomery Streets and Grant Avenue and a line 40 yards from Broadway.

PROFESSIONAL NEWS

Honors and Awards

Internationally known designer John Yeon of Portland, Ore., has been awarded the National Institute of Arts and Letters' Arnold W. Brunner memorial prize of \$1000. The award was made for the designer's work over a period of 20 years rather than for any one building which he had designed. Among the buildings which he has designed are the Portland Information Center and many houses in Oregon and California.

The American Institute of Planners has presented its annual distinguished service award to Charles B. Bennett of Los Angeles, former director of planning for Los Angeles and now director of planning for Peirira & Luckman, architects and engineers. The citation for the award stated that it was given for his "general excellence and accomplishment in the field of city planning."

Public Relations in Action

The Women's Architectural League of Portland, Oregon, in conjunction with the Portland Oregonian's Hostess House, recently sponsored a four-session forum with the theme "Let's Build a House." Sessions on selection of property and financing, the house itself, constructing the house, and final approval of the house and selection of furnishings — all stressing the part an architect plays in the process — were held during March, with architects, real estate and property experts, a contractor, a landscape gardener and an interior decorator participating in the discussion. Mrs. Joseph H. Rudd, Jr., was chairman of the planning committee. Exhibits at Hostess House were arranged to complement the discussions.

Elections and Appointments

George Lind was recently elected president of the Orange County, Calif., chapter, A.I.A., with John Nordbak as vice president, Willard Jordan as secretary, Martin Renfro as treasurer and Raymond Johnson as director.

Kenneth L. Knight has been elected president of the Great Falls Society of Architects. Robert K. Lund is vice president and George C. Page, secretarytreasurer.

L. F. Richards of Santa Clara, Calif., is the new president of the Coast Valleys Chapter, A.I.A. Birge Clark of Palo Alto is vice president; Ted Chamberlain, San Jose, secretary; Russ Williams, San Jose, treasurer; and Paul Huston, Palo Alto, and Frank Treseder, San Jose, directors. Treseder, the outgoing president, will act as delegate to the California Council of Architects.

Gordon Sweet, architect of Colorado Springs, was recently elected president of the Colorado chapter of the A.I.A. Carl Kloverstrom is new vice president; Richard B. Williams, secretary, and Paul W. Rader, treasurer. Norton Polivnick will be delegate to the regional council with Kenneth R. Fuller as alternate. Officers with the exception of the new president are from Denver.

Wallace Holm was recently elected president of Monterey Bay Chapter, A.I.A., with Elston Page, vice president, Frederick C. McNulty, secretary, George F. Rhoda, treasurer, and George Willox and William D. Concilino, directors.

S. B. Barnes, Los Angeles, has been elected president of the Consulting Engineers Association of California. H. J. Brunnier, San Francisco, is vice presi-(Continued on page 48-22)





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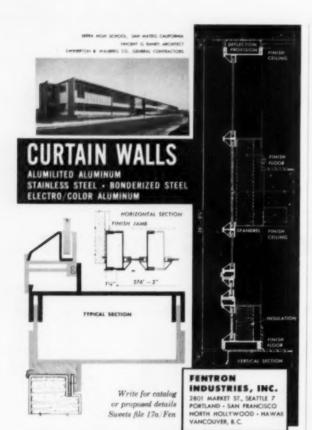


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PROFESSIONAL NEWS

(Continued from page 48-20)

dent and G. M. Simonson, San Francisco, secretary-treasurer. Mark Falk, San Francisco, LeRoy Crandall, Los Angeles, and Edward Lowe, Fresno, were elected directors.

Albert Roller and Clarence Peterson, architects, have been named to the San Francisco Art Commission, and Donald Beach Kirby has been named to the San Francisco Planning Commission by the city's new mayor, George Christopher.

Donald Lutes of the Eugene, Ore., firm of Wilmsen & Endicott, architects, has been named chairman of the planning commission of the neighboring city where he resides, Springfield.

California's Stanford Research Institute is one of eight architectural, engineering and research organizations appointed to assist in planning a national civic auditorium in Washington, D. C. Other Western organizations invited to serve on the planning board are Pereira and Luckman, architects and engineers, Los Angeles, Calif., and MacKie and Kamrath, architects, Houston, Texas.

C. Jefferson Sly, structural engineer of San Francisco, was recently elected chairman of the San Francisco Building Industry Conference Board.

John Lyon Reid, architect of San Francisco, is the new president of the California Council of Architects. He succeeds Henry Wright of Los Angeles. William Glenn Balch of Los Angeles has been named vice president; Lee Kline, Pasadena, secretary; Al Thomas, Sacramento, treasurer; and Frank Treseder, Los Gatos, member-at-large.

Former director of San Francisco's Redevelopment Agency James E. Lash was recently named executive director of the American Council to Improve our Neighborhoods, a national organization for promotion of better living conditions which is currently conducting research under a Ford Foundation grant.

New Addresses, Firm Changes

Graham Latta and Carl Denney, architects, are dissolving their partnership at the completion of current commissions. Latta will continue practice at a new address, 3112 Los Feliz Blvd., Los Angeles.

Robert M. Graves, landscape architect, has opened offices at 1644 Main Street, Walnut Creek, Calif.

Frederick L. Langhorst, architect, has resumed practice at 1360 Clay Street, San Francisco, Calif, after several years of traveling and working in Europe.

Welton Becket, F.A.I.A., and Associates, has opened its seventh branch office, located at 2225 Bryan Street, Dallas, Texas.

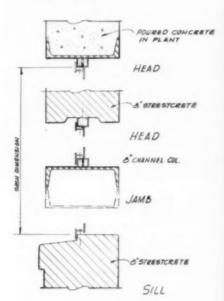
A. John Brenner, architect, announces formation of a partnership to be known as John Brenner and Associates, Architects, with E. W. McIntire, III, as new partner in the firm. Offices are at 702 Title & Trust Building, Phoenix, Ariz.

Pereira & Luckman, architects and engineers of Los Angelés, announce the appointment of Col. Felix A. Kalinski of the Army Air Force as director of military projects for the firm.

(Continued on page 48-24)

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PROFESSIONAL NEWS

(Continued from page 48-22)

John J. Gould, structural engineer, and Henry J. Degenkolb, chief engineer in Gould's office, have formed a partnership with offices at 149 California Street, San Francisco, Calif., under the firm name of John J. Gould & H. J. Degenkolb, Consulting Engineers.

Graham and Hayes, structural engineers, have moved to new offices at 225 Front Street, San Francisco, Calif.

Hobart D. Wagener, architect, has moved to 1201 Mapleton Street, Boulder, Colo.

Thomas L. Sutton and C. Morrison Stephens, architects, have announced the opening of their office under the firm name of Sutton & Stephens, at 731 Market Street, San Francisco, Calif.

Victor N. Jones and Associates, architects and engineers, recently announced the formation of a new partnership under the name of Jones, Lovegren, Helms & Jones, with offices at 706 Republic Building, Seattle, Wash.

Frederic S. Schachtman and Frank L. Velikonia, architects, have opened offices at 333 Maryland Street, Vallejo, Calif.

Harwell Hamilton Harris, architect, has moved from his Austin address to new offices at 3613 West Seventh Street, Fort Worth, Texas, and announces that Frank H. Sherwood. engineer, has become an associate in the firm.

Norris M. Gaddis, architect, formerly of Eugene, Ore., has opened new offices at 632 Grand Avenue, Oakland, Calif.

CALENDAR OF WESTERN EVENTS

- July 1-6: National Education Association convention, Portland, Ore.
- July 12: Closing date, Chrysler Art Collection Exhibition, Palace of Legion of Honor, Golden Gate Park, San Francisco
- · July 15: Closing date, Pacific Coast Art, exhibition from Third Biennial of Sao Paulo, 1955. San Francisco Museum of Art, War Memorial Building, Civic Center, San Francisco
- July 15-August 19: "California Designed," exhibition of work (including architecture) by younger Californians. Long Beach, Calif., Municipal Art Center and Oakland, Calif., Art
- September 7-9: Northwest Region, A.I.A., annual convention, Hotel Winthrop, Tacoma, Wash.
- October 10-14: California Council of Architects annual convention and California-Hawaii-Nevada Region, A.I.A., annual conference. Ahwahnee Hotel, Yosemite National Park, Calif.
- October 11-13: Structural Engineers Association of California annual convention, Reno, Nevada
- October 18-20: Western Mountain Region, A.I.A., annual convention, Hotel Utah, Salt Lake City, Utah

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	Kraftile Co	48-14
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	Pfeiffer Iron Works, Inc.	48-5
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	Nelson Herman Division	48-6-7
	Pacific Tel. & Tel. Co	48-16
	Peerless Electric Co	48-20
	Porcelain Enamel Publicity Bureau	48 - 24
a-ic	Sanymetal Products Co., Inc.	48 - 22
	Smoot-Holman Company	48-17
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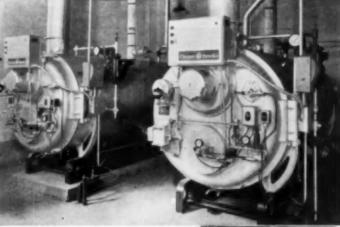
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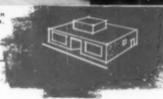
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TWENTY-FIVE YEARS OF LEADERSHIP BY THE ORIGINATORS OF THE SELF-CONTAINED BOILER

THE RECORD REPORTS: CONSTRUCTION COST INDEXES

Labor and Materials

U. S. average 1926-1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

ATLANTA

Period	Resid Brick	lential Frame	Apts., Hotels Office Bldgs. Brick and Coner.		rcial and Bldgs. Brick and Steel	Resid Brick	lential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Factory Brick and Concr.	rcial and y Bldgs. Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1	83.6
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1	85.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4	94.7
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4	135.1
1947	219.3	222.0	207.6	207.5	203.8	180.4	184.0	158.1	157.1	158.0
1948	250.1	251.6	239.4	242.2	235.6	199.2 .	202.5	178.8	178.8	178.8
1949	243.7	240.8	242.8	246.4	240.0	189.3	189.9	180.6	180.8	177.5
1950	256.2	254.5	249.5	251.5	248.0	194.3	196.2	185.4	183.7	185.0
1951	273.2	271.3	263.7	265.2	262.2	212.8	214.6	204.2	202.8	205.0
1952	278.2	274.8	271.9	274.9	271.8	218.8	221.0	212.8	210.1	214.3
1953	281.3	277.2	281.0	286.0	282.0	223.3	224.6	221.3	221.8	223.0
1954	285.0	278.2	293.0	300.6	295.4	219.6	219.1	223.5	225.2	225.4
1955	293.1	286.0	300.0	308.3	302.4	225.3	225.1	229.0	231.5	231.8
eb. 1956	306.6	298.7	313.7	322.5	318.3	233.8	232.4	236.9	240.1	239.1
Aur. 1956	307.0	299.2	313.8	322.5	318.4	234.2	232.6	237.1	240.3	239.4
pr. 1956	307.9	300.4	314.7	323.4	319.0	235.9	234.5	238.3	241.3	241.1
April 1956	149.3	% 145.4	increase over 19 140.8	142.4	145.2	173.3	182.2	ncrease over 19 150.6	39 147.7	154.6

ST. LOUIS

SAN FRANCISCO

April 1956	162.3	162.5	141.6	1939	144.6	161.6	% in	140.8	139.3	148.6
Арт. 1956	289.1	280.9	286.8	298.4	291.1	276.2	268.2	282.7	291.7	289.6
Mar. 1956	288.3	280.4	286.2	297.6	290.9	274.8	267.0	281.8	290.3	288.9
Feb. 1956	286.9	278.6	285.8	297.2	289.8	274.8	267.0	281.3	289.9	286.8
1955	273.3	266.5	272.2	281.3	276.5	268.0	259.6	275.0	284.4	279.6
1954	266.6	260.2	263.7	273.3	266.2	257.4	249.2	264.1	272.5	267.2
1953	263.4	256.4	259.0	267.6	259.2	255.2	257.2	256.6	261.6	259.7
1952	259.1	253.2	249.7	255.0	249.6	250.2	245.0	245.6	248.7	249.6
1951	252.0	248.3	238.5	240.9	239.0	245.2	240.4	239.6	243.1	243.1
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.6
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8	186.9
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110 index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

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ARCHITECT Hector Velarde
BUILDER Cilloniz-Olazabal-Urquiaga S. A.

PLUMBING ENGINEER Raúl Fatule

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Residence in Chestnut Hill, Philadelphia. Built on site of old estate, overlooking formal gardens. Architects: Bishop and Wright, Phila., Pa. Contractor: Cleveland Yerger & Sons, Phila., Pa. Windows: Lupton Architectural Projected.



Penn Square Village, Montgomery County, Pa. Builders: Erlen Development Corporation, Phila., Pa. Architects: Nolen and Swinburne, Phila., Pa. Windows: Lupton Steel Residential Casements.



Faculty Residence, Lawrenceville, N. J. Architect: Livingston Smith, Phila., Pa. Contractor: William Musson, Lawrenceville, N. J. Windows: Lupton Aluminum Casements. Double-Hung and picture windows.



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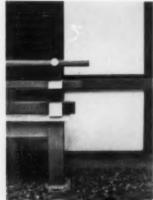
One of a group of houses in Pottstown, Pa. designed and built by Allen K. Davidheiser, Windows: Lupton Aluminum Residential Casements.



Faculty Residence, Lawrenceville, N. J. Architect: Livingston Smith. Phila., Pa. Contractor: William Musson, Lawrenceville, N. J. Windows: Lupton Aluminum Casements, Double-Hung and picture windows.



The Lichty Residence, Bryn Mawr, Pa. Architect: S. Kendrick Lichty. Bryn Mawr, Pa. Windows: Lupton Residential Aluminum Casements.



All photographs by Norman F. Carver Jr.



DETAILS OF JAPANESE ARCHITECTURE



Form and Space in Japanese Architecture, By Norman F. Carver Jr. Shokokusha Publishing Company (Tokyo, Japan) 1956. 200 pp, illus. \$12. American distributor: George Wittenborn & Co., N. Y. C.

This volume presents the fundamental principles to be found in ancient Japanese architecture and illustrates their usefulness to the architect of today.

It is primarily an album of photographs, all reproduced at nearly full plate size. The photographs, taken by the author, are excellent in every way: technically, artistically, and reproduced with commensurate quality on coated paper. What text there is is in both English and Japanese; were the text in Japanese only, the value of the book would not be diminished.

For the architect this book fills a gap in the published literature on Japanese architecture since the

photographs are concerned mainly with well chosen details. Various textures, patterns, joints, connections, groupings and the like are examined closely in conjunction with many excellent exterior and interior photographs, bearing little or no resemblance to the stereotype illustrations so often presented in books of this type. For once, here is a book that is neither an introduction nor an exhaustive history of the subject; it assumes a certain knowledge of Japanese architecture on the part of the reader, and then proceeds to move in closer with an artistic and architectural frame of reference, with no attempt to be exhaustive in the scholarly sense.

For all interested in Japanese architecture, a highly recommended book. Richard B. McCurdy

(Continued on page 60)

where there's an "after hours" heating problem...



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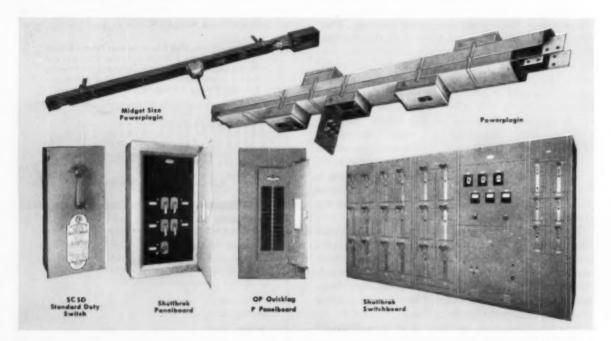
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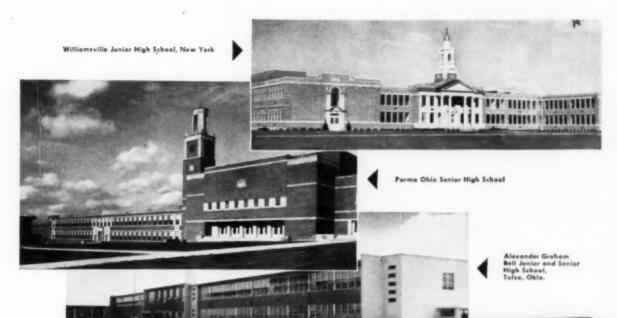
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REQUIRED READING

(Continued from page 56)



Why PLAN a Garden?

The Art of Home Landscaping. By Garrett Eckbo. F. W. Dodge Corp. (119 W. 40th St., New York City) 1956, 278 pp, illus. \$5.95

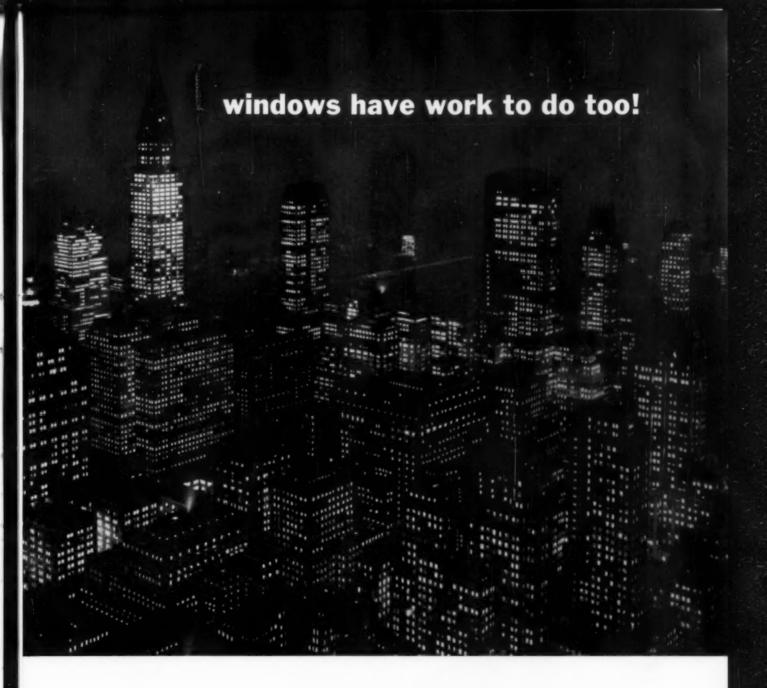
Let's take the neighbors above for example. Both are young moderns who have read the home and garden variety of magazine and know almost just exactly what they want in the way of "indoor-outdoor" living.

The Newfields who live in the new ranch style house went forth impetuously and gathered by hook or by crook a dozen azuratum, a few shrubs and trees and some flagstone. Within a few days of hard labor had a fine hodgepodge, good for nothing.

The Overbees, in their new-old house, curbed their impetuosity and after several studious weekends of making graphs, planning budgets and consulting the "how-to-do-its" started slowly but surely to get the most for their labor and money.

Needless to say Mr. Eckbo strongly recommends the latter approach and to strengthen his point proceeds to give the best step-by-step instructions to the amateur landscaper to be published to date. His "instructions" include such highly technical matters as foundations and surfacing as well as information on walks, fences and of course, plants. They are written in a style that is easy as well as enlightening.

One of the most rewarding chapters (Continued on page 352)





Night and day, year after year windows are on the job to provide resistance to the elements—they must stand the rigors of time! POMEROY a name long associated with quality window manufacture is constantly developing and improving design and construction methods to give you the ultimate in efficiency.



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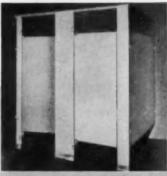
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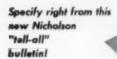
Modern production facilities, housed in a new 67,000 square-foot plant, are busy building up a standard-size stock of these three most popular styles. From ultramodern to rugged utility designs, you can get the toilet compartments you need in a hurry.

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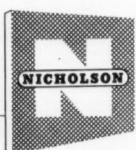
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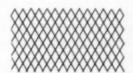


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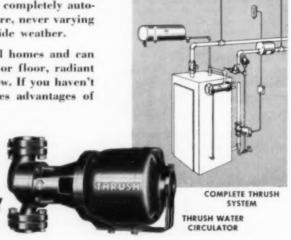
YES, HOT WATER heat is a big feature in selling a home . . . it's the quietest, cleanest, mildest and most flexible modern heating method. Thrush Radiant Hot Water Heat is the most completely automatic and convenient. It maintains an even temperature, never varying more than a fraction of a degree regardless of outside weather.

It works equally well in basement or multi-level homes and can be installed inexpensively with panels in the ceiling or floor, radiant baseboards, convectors or radiators. Upkeep cost is low. If you haven't been specifying hot water, investigate the many sales advantages of Thrush Heating now.

See our catalog in Sweet's or write Department J-7 for more information.

H. A. THRUSH & COMPANY

PERU . INDIANA

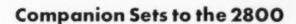


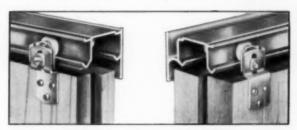
always specify STANLEY sliding door hardware

Guarantee builders fast, labor-saving installation and permanent, trouble free operation

The sensational Stanley 2800 for ¾" and 1¾" by-passing doors.

Revolutionary dual purpose hanger.





04 280

Two sets with built-in header trim and facia, save extra labor of installing separate trim. Same unique hanger as the Stanley 2800's, with it's ¾" vertical adjustment and lock-in-place features. Specify 2804 for ¾" doors, 2808 for 1¾" doors,





Here is Stanley's new set for single door in pocket. Track is applied directly against header. Top-mounted hanger permits up to ½" vertical adjustment.

EASIEST TO INSTALL

Builders can make up to 36" vertical adjustments without loosening the three door screws ... save valuable time on every installation. No other hanger will adjust so freely and quickly! Doors can be lifted on and off jump-proof tracks without removing hangers from doors.



MINIMUM CALL-BACK HEADACHES

The serrated edges on this unique hanger lock doors permanently in place — within 1/16" exactness. Doors will not slip!

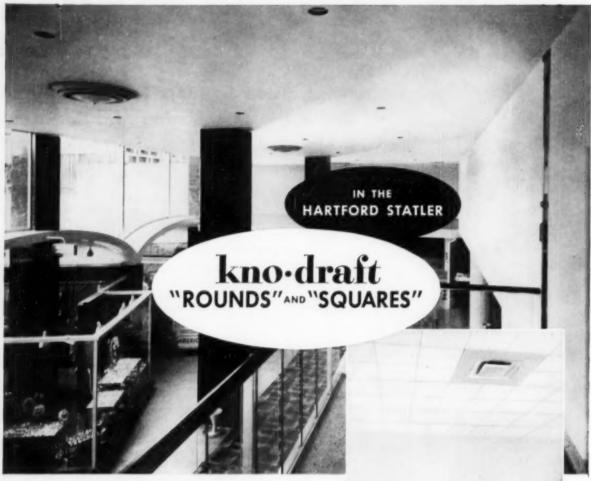
SMOOTHEST IN OPERATION

Permanently lubricated nylon wheels glide smoothly across V-shaped steel tracks that have been pressformed for perfect straightness, Bonderized for corrosion resistance. Heavy gauge steel hangers are electro zinc plated.

Write for Stanley's new folder G-88R on Stanley sliding door hardware, trim and accessories. Sliding Door Sales, 167 Lake St., New Britain, Connecticut.



STANLEY



Engineers: Jaros, Baum and Bolles Mechanical Contractors: Alvord and Swift

Conditioned air is delivered to all offices and public rooms of the new, modern Statler Hotel in Hartford, Connecticut, through Kno-Draft Adjustable Air Diffusers. Both round and square units are used—and a few of the new slot-type Kno-Drafts (not shown).

Primary reason for selection of Kno-Draft was the greater comfort assured by *draftless* air movement, uniform temperature, and the easy and accurate control of both air volume and flow pattern.

And notice how neatly the Kno-Draft squares fit into acoustical ceilings and how—square or round—the hand-some Kno-Draft units blend unobtrusively with the architectural scheme of things,

For complete specifications, engineering and installation information on Kno-Draft round, square and slot-type diffusers, simply write on your letterhead to Connor Engineering Corporation, Dept. E-76, Danbury, Conn.





Schoolrooms Are In For Brighter Days

with Vina - Lux FLOORS

Vina-Lux vinyl-asbestos tile makes a perfect flooring background for school areas. Soft, light-reflecting colors, attractive but not distracting, suggest new and interesting design techniques that will make your school interiors more effective.

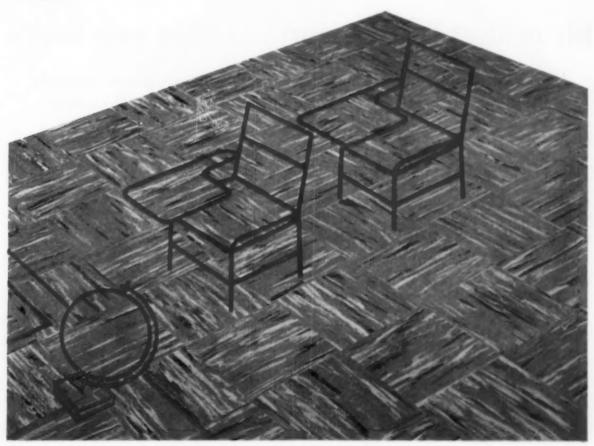
And Vina-Lux makes light of maintenance, too — doesn't take muddy tracks, grease or chalk dust seriously, and its smooth, tightly-textured surface keeps that fresher, cleaner look for years without the need of wax. When your problem is school flooring, you'll discover new designing freedom in Vina-Lux. Write for information, samples and color chart.

Pattern shown: Kodiak



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564 Frost Bank Building • San Antonio, Texas • Makers of Vina-Lux • Azrock • Duraco • Azphlex





Air conditioning keeps indoor climate clean, fresh, temperature-perfect at Norwich Pharmacal laboratory.

His comfort helps research improve your health

Here's how American Blower air conditioning equipment controls the climate in one of America's most modern research centers

Having developed such antimicrobial agents as the nitrofurans—widely used in the treatment of both human and animal diseases, and comparable to the sulfonamides and antibiotics—the Norwich Pharmacal Company promises even greater aids to healthful living through improved research at its new Melvin C. Eaton Laboratory, Norwich, N. Y.

Here, American Blower air conditioning equipment assures ideal working comfort in offices and laboratories . . . eliminates variable temperatures in research projects.

For example, in work with rabbits which are affected by fluctuations in heating or cooling—temperature changes could distort the results of many months' research. Temperatures in the laboratory never vary more than one degree.

Norwich's chief engineer, Wm. Agnew, adds: "Our American Blower equipment not only provides dependable, quiet air conditioning, it also does an excellent job of dust filtering — essential in keeping test tubes, test plates uncontaminated."

If your plans include air conditioning, it will pay you to talk to an American Blower sales engineer. Just call our nearest branch office. American Blower Corporation, Detroit 32, Michigan; Canadian Sirocco Company, Ltd., Windsor, Ontario.



AMERICAN



BLOWER

Division of American-Standard
Air conditioning equipment for every business

In addition to equipment for complete central systems, American Blower offers packaged air conditioners for offices, stores, small industrial plants and similar applications.



A triumph of modern school design is the new Chambersburg (Pennsylvania) Area Senior High School planned by architects Ritchie Lawrie, Jr. and M. Edwin Green.

Early planning made the gymnasium of this new Chambersburg Area School as completely modern and efficient as the rest of the building.

Instead of choosing the gymnasium seating after the school was erected, Architects Lawrie and Green conferred with a Wayne Seating Engineer at the planning stage. Result: no costly errors that waste space and mar seating effectiveness.

Standard Wayne Gymstands were selected expertly with regard to location of windows, doors, pilasters, heating and ventilating units, folding partitions, sightlines and economy!

More and more of today's school planners recognize the value of early planning. Professional seating guidance helps them build more efficient, attractive gymnasiums. And Wayne's famous features — closed riser construction, straight-line opening and closing, carefully chosen and finished woodwork—assure them the best in gymnasium seating. If you're planning a new gym, plan early with Wayne!

HERE'S HELP FOR GYMNASIUM PLANNERS: Send for Wayne's Catalog R-55; it's full of helpful seating data.

WAYNE

Wayne Iron Works . 148 N. Pembroke Ave., Wayne, Pa







QUICKLY-ERECTED CURTAIN WALLS FOR ALL TYPES OF BUILDINGS

Do 3 Jobs in 1! Cemesto Panels provide a structural wall... thermal insulation... maintenance-free incombustible finished surfaces inside and out. Save on heating and air conditioning costs. They blend harmoniously with brick, stone, wood, glass, and metals. May be worked with ordinary tools on the job, or pre-cut to required special sizes at the mill for faster application. Panels fasten to steel framing with metal accessories, or to wood framing with nails or screws.

Aftractive Extruded Aluminum Accessories harmonize with gray Cemesto Panel surfaces to lend beauty to curtain walls. Built-in Neoprene gaskets assure weather tightness.

Architects specify this remarkable all-purpose building material for curtain walls, roof decks, and movable interior partitions. Write today for New File 5500 . . . 52-page simplified data book on design and application details of Cemesto Structural Insulating Panels. The Celotex Corporation, Dept. AR-76, 120 S. LaSalle St., Chicago 3, Ill.

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THE CELOTEX CORPORATION . 120 S. LASALLE STREET . CHICAGO 3, ILLINOIS



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for COMMERCIAL BUILDINGS



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Permesto Panels are strong, rigid, permanent structural insulating units. Their core is Celotex cane fiber insulation board effectively protected against dry rot and termite attack by the exclusive Ferox® Process. Non-combustible cement-asbestos facings are bonded to both sides of this insulating core by a moisture-proof adhesive. Cemesto Panels resist fire, weather, and wear, need no painting or maintenance.

SHEET COPPER BY

gives lasting beauty to
First Presbyterian Church
Findlay, Ohio,

From copper-covered steeple to copper flashed slate roof, 13,900 lbs. of 20 oz. Chase Cold Rolled Copper were used on the new First Presbyterian Church, Findlay, Ohio. The architects selected easily-soldered, full weight 16 oz. Chase Flashing and downspouts, too!

Chase Sheet Copper, properly installed, adds years of trouble-free, water-tight service to any roof! What's more, corrosion-resistant Chase Copper roofing products have a lasting beauty that improves with age. Give your next job this Chase combination of extra service and rugged beauty! Contact your wholesaler or the Chase Warehouse near you for all Chase Copper roofing products!

Specify quality Chase Copper roofing products for your next job!



BRASS & COPPER CO.



16" x 18" Copper "pans" of easily soldered copper were permanently applied on the horizontal section of the roof. Note expansion joints.



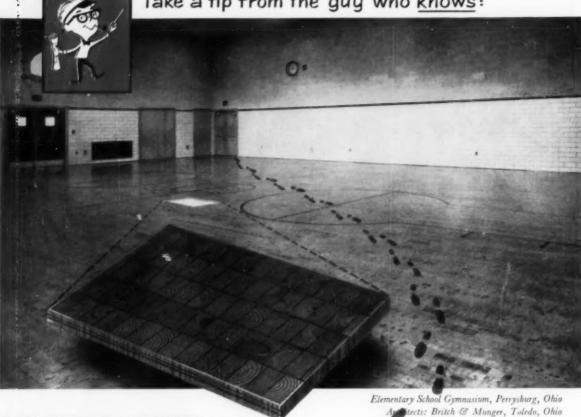
CHASE°-

Sheet Metal Contractor: Fred Christen & Sons Co., Findlay, Ohio. Architect: Charles Frederick Cellarius. Engineer: Harry Retlinger. General Contractor: Hossler Construction Co.

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Attanta Baltimore Boston Charlotte Chicago Cincinnati Cleveland Dallas Denver Detroit Grand Rapids Houston Indianapolis Kansas City, Mo. Los Angeles
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Take a tip from the guy who knows:



FOR SCHOOL FLOORS THAT LAST A LIFETIME, KREOLITE!

> The Jennison-Wright Corp.

2463 Broadway Toledo 9, Ohio

Please send me a free sample and complete specifications of Kreolite Flexible Strip End Grain Wood Block Flooring.

Wood Block Floors have been used suc-For nearly 50 years, Krow cessfully in industrial plant areas where heavy traffic would ruin normal

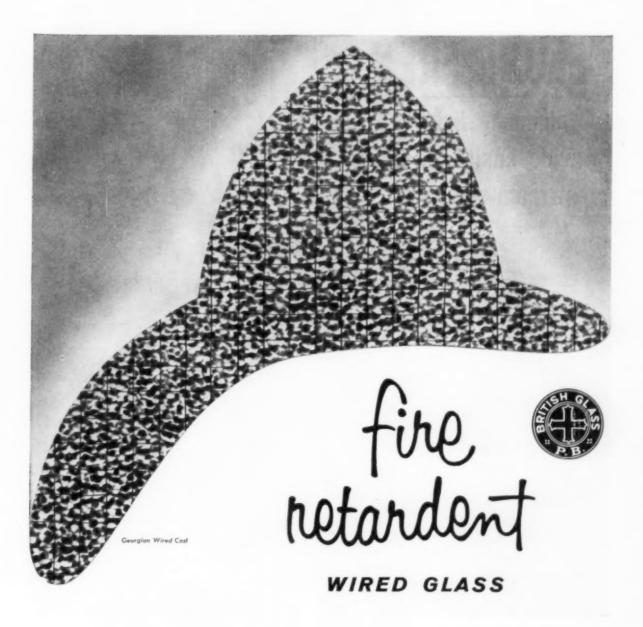
Now, Kreolite offers this famous prability in its beautiful Flexible Strip End Grain Wood Block Floors designed specifically for school activities centers like gymnasiums, vocational shops and laboratories.

Made from 1-1/2" or thick kiln-dried southern yellow pine, individual blocks of Kreolit e wire-trussed together to form compact monolithic-like end grain aks or strips. These strips are then impregnated with like end grain dive to guard them against the ravages of time.

When the flooring is a each Kreolite strip is interlocked to adjoining strips by a patented steel wire spline—providing a smooth, resilient floor that defies hard uses! For complete details, fill out the coupon below.

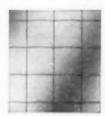
FLEXIBLE STRIP END WOOD BLOCK FLOORS





Wired glass is the only material that lets in light but is strong enough to resist the progress of FIRE. Insurance companies take this factor into consideration when assessing a building. Pilkington's have fire retardent glass in four attractive styles . . . Polished Georgian Wired . . . Georgian Wired Cast . . . Polished Wired . . . Polished Wired Cast. These glasses also act as a safety barrier and give extra protection against burglary.

Please write for specifications. We also have explanatory pamphlets telling the story of fire retardent glass. These were specially designed for builders and architects to use in client discussions. Copies sent on request.



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PILKINGTON BROTHERS LIMITED, ST. HELENS, ENGLAND

Represented by Pilkington Bros. (Canada) Limited

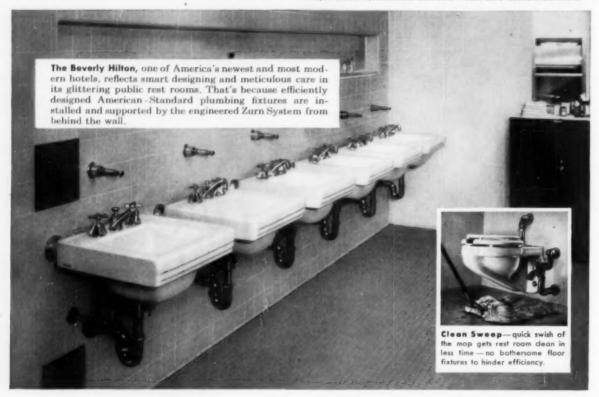
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FLOOR-FREE

plumbing fixtures provide easier, cheaper rest room maintenance



General Contractor—Del E. Webb Co.; Architects & Engineers—Welton Becket, F.A.I.A., & Associates; Mechanical Contractor—Scott Co. of Southern California.



FREE!

Send for your free copies of these two helpful booklets: "Better Rest Room Guide" by American-Standard and "You can build it for less a New Way" by Zurn.

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rooms.	Please	101	nd n	18 Y	our s	peci	al b	ook	lets.

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FLOOR-FREE design gives your rest rooms these advantages...

Improved sanitation—facilitates quick, thorough cleaning.

Neater appearance—open expanse décor looks more modern—stays spick and span longer.

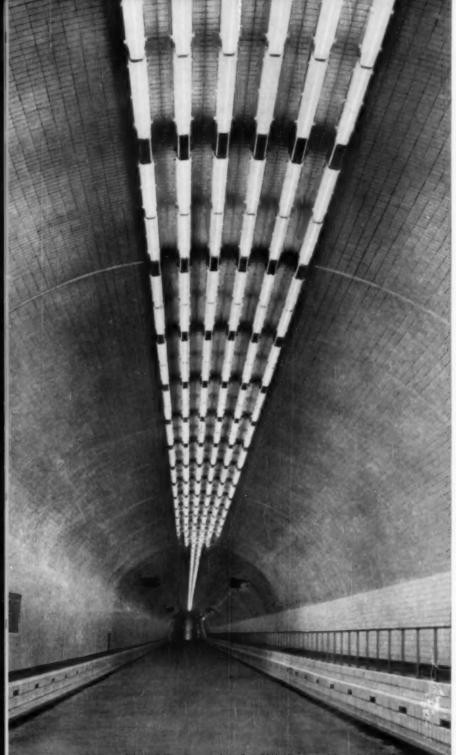
Lower maintenance—fewer people can do a faster maintenance job.

"Age-proot" look—important combination of dependable quality American-Standard fixtures plus a rigid support by the Zurn System, which relieves wall of strain—gives installation an "age-proof" look,

American - Standard Plumbing & Heating Division
40 W. 40th St., N. Y., N. Y.

J. A. ZURN MFG. CO. (Plumbing Division), Erie, Pennsylvania





Better looking, better lighting

with luminaires of Du Pont LUCITE®

Lucite acrylic resin combines beauty with durability. It provides the lighting industry with a material that is superior for many types of lighting applications. Luminaires of LUCITE are strong, free from discoloration and dimensionally stable. Light in weight, they are easy to handle and install.

Nearly two miles of luminaires in the Baytown-LaPorte Tunnel in Texas demonstrate the superior efficiency of LUCITE. Manufactured by the Sunbeam Lighting Company of Los Angeles, California, and installed by Muhl Electric Limited of Houston, the luminaires of Lucite provide high transmission of the entire visual spectrum. The LUCITE does not discolor an i it is practically impervious to the effects of fumes, vapors and other tunnel conditions. The luminaires of LUCITE are easily maintained and strong enough to withstand high-pressure cleaning sprays. (LUCITE extruded by Plastic Process Company, Division of Monadnock Mills, Los Angeles, California.)

Du Pont Lucite can be readily formed into desired shapes and is available in a wide range of transparent and translucent colors.

SEND FOR NEW FREE BOOKLET. This new 12-page illustrated booklet describes all the latest property and application data on

LUCITE acrylic resin for lighting. For your free copy, write to E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Department, Room 737, Du Pont Building, Wilmington 98, Del.

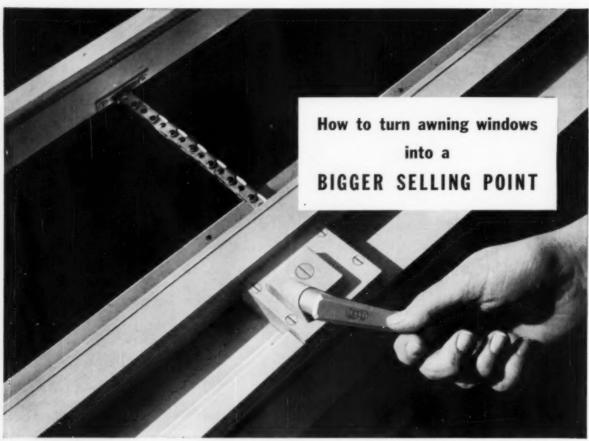


 This "Quality Controlled" label may be used only by qualified extruders of Du Pont Luctte acrylic resin. It assures the lighting industry that the extruded material conforms to standards for low shrinkage and uniform caliper established by E. I. du Pont de Nemours & Co. (Inc.).





BETTER THINGS FOR BETTER LIVING ...THROUGH CHEMISTRY



The special Getty chain becomes fully rigid when extended—locks window in any desired position.



This Getty set is easy to operate—easy to install. No need to disturb trim—stathing concealed in the window.



The Getty hinges drop the sash $4\frac{1}{2}$ to 6 in, from the head member so that the outside of sash can be cleaned from inside the room. Only Getty hinges should be used with this operator.

Getty No. 4711 Operator and Hinge Set opens, closes and locks awning windows with new ease and convenience

Popular awning windows become even more popular when they work as smoothly and easily as they do with this new Getty Operator and Hinge Set.

The Getty No. 4711 Operator is designed on a new and completely different principle. Of the angle-drive, worm-and-gear type, it engages a special flexible chain which becomes fully rigid when extended in opening the window. The operator opens windows without disturbing the screen—locks the sash securely in any open

position—closes it tightly and locks it shut, without the separate lock many other operators require.

Getty No. 4711 Set comes in three sizes to fit windows from 14 to 30 in, high and up to 48 in, wide. It's easy both to use and to install. And you will find that its simplified and improved construction makes other operators completely out of date.

For complete information, including specification data, write H. S. Getty & Co. now.



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MAKE LEARNING EASY

L1684-48
with translucent plastic sides

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with low brightness metal sides

A is for Architects who will welcome Sunbeam Lighting's new L1680 series, scientifically designed to surpass the most rigid classroom lighting specifications. A is for such outstanding Advantages as unusual high efficiency and low brightness, 35° by 35° shielding, translucent plastic side panels for reduced contrast ratios and for shallow modern styling to enhance today's architectural motifs. Bonderized and finished in all white baked enamel.

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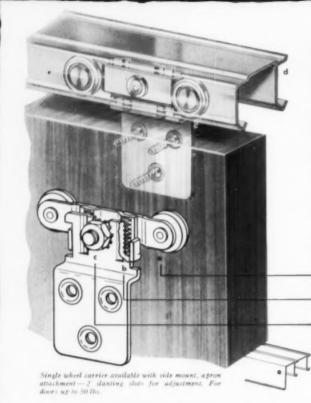
B is for Board of Education members and school administrators who will be assured their decision for these Sunbeam Visionaires® will provide their student body the finest, long lasting, high quality illumination available, with maximum versatility for changing school plans.

C is for Contractors who will save money through the ease of installing the L1680-L1620 series, either ceiling or pendant mounted. Fixture channels accommodate sliding clamp hangers, ample knockouts provided for easy continuous row or single unit installation. Maintenance is simplified by chain-suspended cover and louver; lamps can be changed from a single position.

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Grant boosts construction succession of quality





the new

Rocket 6000 sliding door hardware

Substantial—reliable

Low installation labor costs

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a. Quiet, self-lubricating nylon wheels — durable and no metal-to-metal centact.

b. Note simple 2-plate design. Male and female greeves insure positive, non-slip engagement.

c. Carrier design allows ¼" vertical adjustment.

No loosening or re-setting of screws attaching carrier to door. Load capacity 75 lbs. Headroom as low

d. Track design prevents jumping.

e. Fascia track is also available.

Grant 5000...the deluxe sliding door hardware

Finest quality sliding door hardware ever manufactured. Easy, practical installation. A model of Grant specialized engineering and fine production. Outstanding for custom designed homes, fine apartment and institutional construction. Be sure you have the 5000 Series development houses.



108 Pages of Important Data

The Grant catalog contains full data on all sliding hardware needed in building construction. Use it as your handy reference book. Your request brings you a free copy.



values...cuts costs...with a product developments!



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Grant manufactures a full line of Stiding Door Hardware - Drawer Stides - Drawer



LIGHTSTEEL system helps save \$250,000 for Riverside Hospital

A problem in hospital design is high cost . . . of patient comfort factors and fireproof construction. That problem becomes more acute under the confines of a limited budget - as was the case with Riverside Hospital, Boonton, N. J.

When the hospital was planned, comparative cost analyses were made of 32 different designs. Conclusion: Penmetal LIGHTSTEEL framing was just what the doctor ordered-important savings could be effected by using this system. It afforded all the advantages of conventional steel framing, but without the waste and high costs of overdesign.

The building has a total of 450,064 cu. ft. Cost including kitchen equipment, emergency generator, X-ray equipment, plus an allowance for contingencies came to \$675,000. Thus the cost per cu. ft. is \$1.50. That's 50 cents per cu. ft. under the national average for this type of hospital!

The architect accomplished savings through judicious use of the 35/8" punched channel stud spaced 2 feet on center, because it was estimated that there would be no penalty for tying 3/8" Penmetal Masterib to this stud.

Economical to buy, LIGHTSTEEL also cut actual erection costs. Because they are light in weight, complete wall units could be shop-assembled ... then trucked to the job site for immediate placement. Other savings were obtained by precisely engineered openings in the sections which simplified through-frame installation of wiring and plumbing. Send for details of economical

Penmetal LIGHTSTEEL.

PENN METAL COMPANY, INC.

General Sales Office: 205 East 42nd St., New York 17, N. Y.

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FOR HOSPITALS SCHOOLS . OFFICES THEATRES . HOTELS MOTELS · HOMES BANKS · APARTMENTS









WEARS LONGER. STAYS BEAUTIFUL LONGER,

... with or without waxing

Specifying floor covering can be touchy business . . . you can save, but be sorry! With the high percentage of vinyl in Bolta-Floor, you're sure of a more dense surface for greater wearability, easier maintenance as well as a rich natural lustre that lasts years longer, with or without waxing.

Bolta-Floor offers a full line in colors, sizes and gauges to meet every requirement. It's available in 22 smart decorator colors ... 5 solid and 17 marbleized, in 4 tile sizes (6 x 6, 9 x 9, 12 x 12, 18 x 18), 2 roll widths (27" and 54") and in 3 gauges (14", 32" and .080).

For top quality and performance, specify Bolta-Floor and be sure.

The General Tire & Rubber Company, Flooring Division, Akron, Ohio





COST STUDIES conducted by Continental Construction Co., Seattle, show new "panel and girder" system (2·4·1 panels over supports 48" o.c.) cuts costs 7 ways over conventional "shiplap and joist" construction.





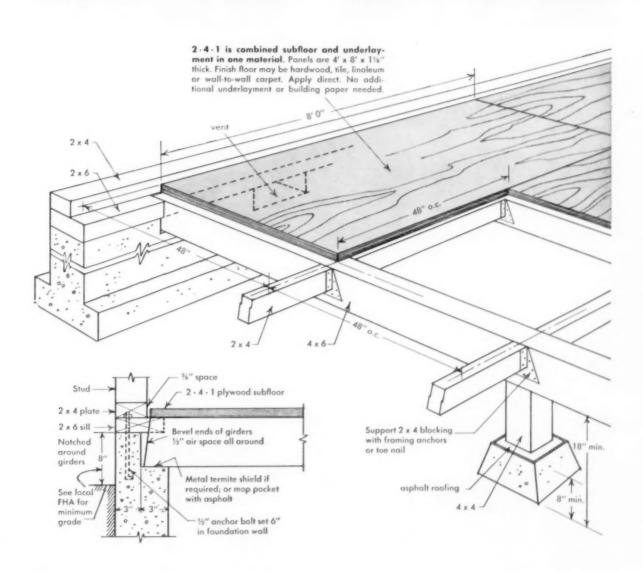
Girders set flush with footings lower house about 12". Result: important savings in materials and labor plus attractive "low-lying" feeling.



7.	Savings on painting contract, staging, etc., due to 12" less exterior wall height. Elimination of framing around heat openings in floor. Labor and material	
6.	Elimination of concrete steps and landings in three places due to lower floor. Labor and material	90.00
5.	Savings in framing, sheathing, siding due to 12" less exterior wall height. Labor and material	40.00
4.	Savings afforded by ease of access to work by heating and plumbing subcontractors. (Panels can be taken up as needed during job)	
3.	Eliminate need for underlayment beneath 5/16" strip flooring. (Note: system permits premium strip flooring to be used at price competitive with ordinary 25/32" flooring). Labor and material @ 20c per square foot	170.00
2.	Eliminate underlayment in kitchen, bathroom. Labor and material $\ .$	30.00
1.	Savings in material and labor costs in subfloor and framing	\$ 78.00

Other builders report varying savings depending upon local labor and material costs, type of finish flooring, and type of construction formerly used (i.e., slab, plank and beam construction).

revolutionary new plywood subfloor-underlay up to \$50000 per house



FOR MORE INFORMATION, write Douglas Fir Plywood Association, Tacoma 2, Washington

from A. O. SMITH research...

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in the industry

re-inforced glass dip tube rmaglas

- remains rigid at 212° F.
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one more reason for selling the leader...

the glass lined water heater over 3,000,000 families know won't rust

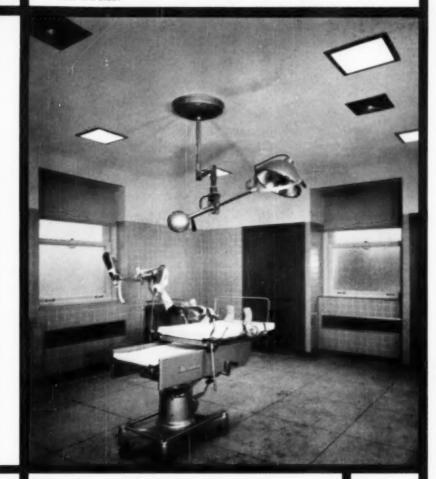


PERMAGLAS DIVISION, KANKAKEE, ILLINOIS International Division, Milwaukee 1, Wisconsin . Licensee in Canada: John Inglis Co., Ltd.

want a sample to test for yourself?

See for yourself how the new Permaglas Re-inforced Glass Dip Tube resists even Re-inforced Glass Dip Yube resists ever boiling water. Send us a postcard, or your initials on your letterhead, and we'll send you a free sample so you can give it the works for yourself.





To provide draftless air diffusion in the delivery room, All-Air High Velocity units are placed under the window. High velocity sound attenuation chambers with square diffusers are mounted in the ceiling. *Turn page for detail*.

In the nursery for premature infants, sound attenuation chambers with square air diffusers are mounted in the ceiling. *Turn page for detail*.

A new high in high velocity for hospitals

New wing of Abington Memorial Hospital, Abington, Pa.

Architects & Engineers:
Jack Steele Company, Philadelphia, Pa.
Schmidt, Garden & Erikson, Chicago, III

Air Conditioning Contractors: Huffman-Wolfe Company, Philadelphia, Pa. Paul A. Norair, Washington, D. C.





All-Air High Velocity under-the-window units are used in all private and semi-private patients' rooms. Turn page for detail.

Here are shown applications of the Anemostat All-Air High Velocity air distribution system in the new wing of the Abington Memorial Hospital.

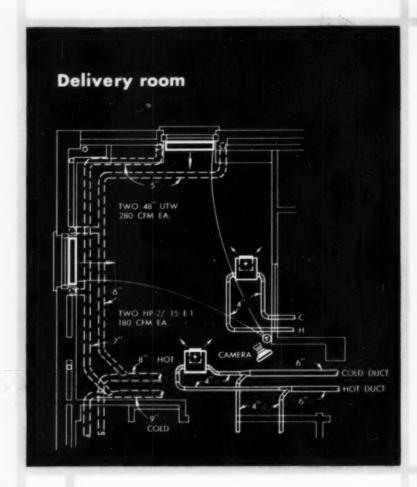
The trend towards Anemostat All-Air High Velocity Systems is growing rapidly. The Anemostat All-Air High Velocity air distribution system can be used with smaller than conventional ducts. It can be installed faster and at less cost. It requires no coils, thus eliminates leakage, clogging and odors. These units save space when installed in hospitals, office buildings, department stores, banks, schools, factories and other structures.

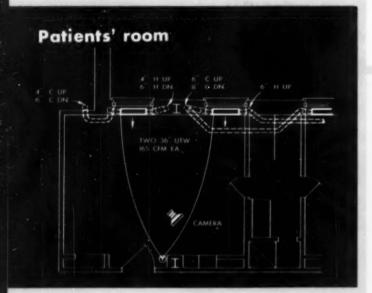
ARCHITECTS—Attention Please:

Anemostat round, square and straightline diffusers with high velocity units complement a wide variety of architectural designs.



Write on your business letterhead for 1956 New Products Bulletin and Selection Manual 50





ANEMOSTAT°

DRAFTLESS Aspirating AIR DIFFUSERS

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LAMBERT-ST. LOUIS MUNICIPAL AIR TERMINAL

uses 16 Crawford Industrial Doors to aid in free flow of baggage, freight



Among the most important and socially significant new buildings going up throughout the world today are air terminals and one of the most interest. ing of these is the Lambert-St. Louis Air Terminal in which function and brilliant design are so effectively combined.

The building is of steel and masonry construction, 412 feet long and 120 feet wide and is crowned by a dramatic "floating dome" which shelters approximately a quarter million square feet of this "Grand Central of the Air"

and catering. Included in these facilities, at key locations, are Crawford Industrial Doors, chosen for their good design, good engineering, stout construction and for their quarter-century reputation for delivering Inherent in the design of the terminal, of course, are facilities to assure the rapid flow of all kinds of traffic . . . passenger, luggage, express, freight

Road, Detroit 5, Michigan. Plants in 10 cities; Warehouses in 105 cities; If you have a door problem, we'll welcome your inquiry and it will get quick, intelligent attention. Architects, write for complete file of Crawford literature including the Crawford 60-Second Door Selector, the easiestto-use door manual ever published, Crawford Door Co., 199.20263 Hoover Sales and Service everywhere. In Canada, F. Fentiman & Sons Ltd., Ottawa, Ontario.

and catering service to planes

Lambert-St. Louis Municipal Airport New Terminal Building

Hellmuth, Yamasaki & Leinweber, Architects Architect and Engineer Detroit, St. Louis

William C. Becker, St. Louis Structural Engineer

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Another Area of Condensation banished forever!

THESE UNIQUE **ROOFING PANELS** DRY THEMSELVES BY WEATHER AIR VENTILATION

In the last large area of condensation - in and under the roofing vapor barriers have failed to give anything but a partial answer. Wilson Air-cor Roof Decking now gives the final, complete answer with a scientific method of removing moisture from the decking itself - by weather air ventilation.

Architects and builders are no longer limited - by local conditions of climate - in their selection of the finished roofing material. For any type of structure and any pitch of roof, Wilson Air-cor provides the dependable roof decking.

126 days of testing by the Engineering Research Department of a leading State University demonstrated "the feasibility of actually drying a wet roof of the Air-cor type by weather air ventilation. The published report recognizes the impracticality of a perfect vapor barrier. With Wilson Air-cor, there is no need for a perfect barrier. The revolutionary principle of ventilation embodied in Wilson Air-cor Roof Decking overcomes the severest conditions of humidity and temperature. Extensive research and actual use prove that Wilson Air-cor makes condensation a problem of the past.

The description of this remarkable product in the Homasote Handbook begins: "The panel consists of 2 x 2 wood members 12" o.c. nailed and glued between two pieces of 11/32" Homasote. On the lower inside of the Wilson Air-cor Panel there is 34" of batt type insulation, with a vapor barrier on the bottom side, and a ventilated

15/32 OR 5/8

HOMASOTE

paper on the top side. At each end there are two small wood blocks to support the Homasote. With only these two small blocks, there is a width of 16" at each end for air to flow from panel to panel." Air enters at the roof edges-where a rake mold is nailed on 34" blocks over screen wire-and insect-free air circulates the length of the roofing.

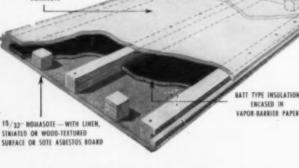
The Handbook continues with specifications, test data, and building instructions. For example, you may be surprised to learn that the problem of ridge and filler has been taken care of with the Wilson Air-cor Ridge Panel. You will be happy to find that Wilson Air-cor is actually a finished ceiling-with three beautiful under-surfaces to choose from (or even Sote Asbestos Board). Accurate tables and complete diagrams give the right information, from width of ridge required for any number of courses, even to pre-drilled nail holes just one more example of the knew-how of the Homasote Handbook.

The new 68-page Homasote Handbook has the right answers to 99 other building problems-answers backed by 46 years' experience in the making of quality materials. We are proud of this book, and

have confidence in its basic value to every architect, builder, and dealer. May we send you a copy? Kindly address Department G-7.







TRENTON 3, NEW JERSEY



This huge floor of Columbus (Ind.) High School has a lively, slip-resistant surface which officials term "perfect for high speed Indiana Basketball." McGuire and Shook, Architects.

FOR COACHES WHO WANT THE BEST POSSIBLE PLAYING SURFACE...

Action is the word for Seal-O-San! For there lies the difference between an ordinary sealer and the right sealer for gym floors.

All gym floors must be designed for ACTION . . . and the activities on those floors should be safe for the youngsters. Basketball is among the fastest sports played on the gym floor and to be played well the players must have confidence that pivots, fast breaks and all tricky footwork are safe, steady, sure . . . otherwise well organized team play becomes pure chaos with each team member looking out for his own skin.

All modern sealers provide a surface that is relatively easy to maintain. All to a degree, enhance the beauty of the wood. All are sold on performance. But, *only* Seal-O-San can give you the assurance of a really lively and safe floor for all types of fast action under nearly any condition.

Next time you must specify a seal for a gymnasium, be sure it will provide the ideal surface for fast action-specify Seal-O-San. There is no "or equal."

See our catalog in Sweet's - 13M.

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SPECIFY SEAL-O-SAN

GYM FLOOR FINISH

where fast action is a must!



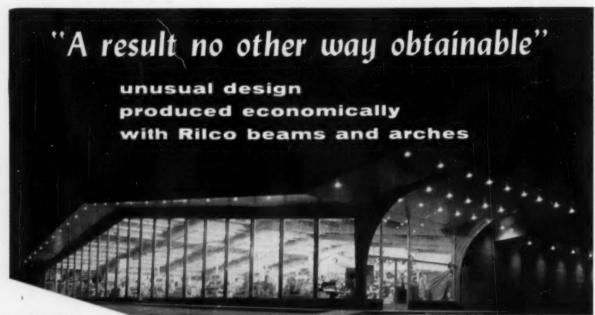
Elkhart (Ind.) School City Officials chose Seal-O-San for use on the three playing floors in the world's largest high school gymnasium because this finish assured them of light, bright, naturally beautiful wood floors which are perfect for fast action games. Maurer and Maurer, Architects



The home court (Allen County War Memorial Coliseum) of the fabulous professional Zollner Pistons was once finished with another "good" sealer until extreme slipperiness made good basketball impossible. Then Seal-O-San was applied to the floor and it since has proven very helpful to the Pistons' fost action game. A. M. Strauss, Architect.



Adolph Rupp, famed coach of the University of Kentucky, recommends Seal-O-San to one and all as "the best floor finish." He insisted that Seal-O-San be the only finish used in his huge fieldhouse. J. T. Gillig, Hugh Meriwether and E. V. Johnson, Architects.



Katz Drug Stere, Kirkwood, Missouri, Architects Kivett and Myers, Kansas City.

"Although the economy was not the prime factor in the use of (Rilco Laminated Beams) it was, of course, a natural result and particularly welcomed when you thereby achieve a result no other way obtainable." The parentheses and underlining are ours, but the comment is direct from the user.

Often Rilco Glued Laminated Arches, Beams and Deck are selected because of their economy. In the case of the Katz Drug Store in Kirkwood, Missouri, however, they offered the architectural effect desired plus the warmth and beauty of wood — economy was a welcome plus.

You, too, will find that Rilco welcome plus values fit into many types of construction — churches, schools, industrial and commercial buildings. Fire safe, Rilco laminated wood members span large areas gracefully and economically.

Rilco engineers will gladly work with you on your requirements and give on-the-job cooperation. There's a cost saving Rilco member for every type of structure, precision built to meet your needs.



Riico fire safe Laminated Beams are delivered on the job, machine finished, wrapped for protection.



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"Outstanding solution to a very difficult problem"

Problem: Create attractive office area in unattractive storage space. Hide unsightly ceiling, plumbing, air conditioning ducts, sprinkler heads. Provide sound-deadening, illuminated ceiling.

Solution: A ceiling using sheets of corrugated Bakelite Brand Rigid Vinyl Plastic. Fluorescent light fixtures suspended from the floor above, provided mounting for the translucent vinyl sheets. Small panels of soundabsorbing material were mounted in a vertical plane, combining with the corrugations to disperse the sound waves.

The fabricated sheets are listed by Underwriter Laboratories as suitable for installation below and as a decorative cover for sprinkler heads since the sheets will soften and fall away before the sprinklers operate. This gives a saving in plumbing and an improvement in appearance. The architect commented: "This ceiling provided an outstanding solution to a very difficult problem."

A ceiling like this will keep its beauty for years. Bakelite Brand Rigid Vinyl Sheets won't warp, crack or discolor with aging. They resist moisture, oil, combustion, and are dimensionally stable. They remove readily for easy cleaning. For modern illuminated ceilings that offer all these advantages—specify Bakelite Brand Rigid Vinyl Sheets. You can get complete data by writing today to Department RG-3.



INSTALLATION . . . What's the best method to install an acoustical ceiling?

Before selecting an installation method, the type of acoustical material specified, construction details, and often budget restrictions must all be considered.

Where an existing ceiling is level and in good condition, cementing is usually the best way to put up acoustical tiles like Armstrong Cushiontone, Travertone, Minatone, Crestone, and Corkoustic. A fast, economical technique, cementing requires fewer installation materials and less labor than any other method.

If overhead pipes and wiring must be concealed, mechanical suspension systems are generally specified and can be used with any Armstrong Acoustical Material. This method simplifies the installation of recessed ceiling fixtures. And when kept as low as practical in corridors, suspended ceilings minimize the conduction of sound throughout this area.

In frame construction, the most economical installation method is to apply Armstrong Cushiontone to wood furring strips by nailing or screwing. Where an incombustible material is required, Armstrong Minatone can be screwed to a gypsum sheathing base.

Because every job has its own requirements, Armstrong provides a wide variety of sound-conditioning materials in many styles and with varying characteristics. These materials are put up by Armstrong Acoustical Contractors, men thoroughly familiar with all installation techniques. Your Armstrong Acoustical Contractor will be glad to give you full details on the entire line of Armstrong sound-conditioning materials.

For the free booklet, "Armstrong Acoustical Materials," write Armstrong Cork Company, 4207 Rock Street, Lancaster, Pennsylvania.



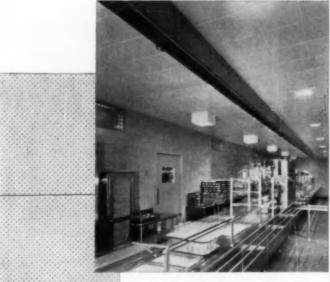
To simplify the installation of overhead fixtures, this attractive Crestone ceiling was put up by mechanical suspension. The newest material in the Armstrong Line, Crestone's attractive styling blends well with other materials in this modern hotel arcade.

. . . Seville Hotel, Miami Beach, Florida



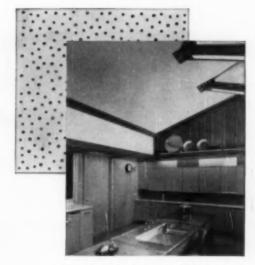
To meet design requirements, the Armstrong Cushiontone ceiling in this corridor is dropped to a height of 8'. This prevents noise but allows light and air to pass through the louvered partitions into the classrooms.

. . . Aiken Elementary School, Alexandria, Louisiana



To hide unsightly pipes, duct, and wiring, a suspended ceiling of Arrestone has been used in this cafeteria. Besides soaking up 85% of the sound that hits it, Arrestone is incombustible and easy to clean.

. . . Metropolitan Museum of Art, New York, N. Y.



To quiet noise in homes, Full Random* Cushiontone can be installed by either stapling, nailing, or cementing. The attractive Cushiontone ceiling blends with the décor and adds relaxing quiet to this modern kitchen.

. . . House Beautiful's Pace Setter, Dallas, Texas



To satisfy fire-safety codes, the noise-quieting ceiling of Armstrong Travertone in this new bank building was cemented to a plaster base.

... The Seamen's Bank for Savings, New York, N. Y.

Armstrong

ACOUSTICAL MATERIALS

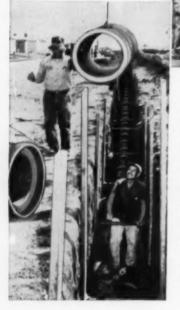
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TORRANCE, CALIFORNIA is attracting new families by the thousands with an unusual combination of job opportunities, ideal climate, and beautiful beaches. To meet the tremendous demand for modern housing, the vast Southwood Homes project is well underway, with a total of 2200 new homes planned and 816, comprising the first unit, already under construction. More than 67,000 feet of 4 through 18-inch Vitrified Clay Pipe have been installed as house connections, feeders, and mains.

Like many other mass-construction builders, those in charge of Southwood Homes know that it pays to use the best in sewerage materials. It pays in faster, more economical construction, as well as in dependable, trouble-free service—since Clay Pipe is the only sewerage material that is guaranteed . . . and never wears out.

Owner, subdivider, and contractor: Milton Kauffman-Don Wilson Co.

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*Modart Telescopis Gym Seats are fully protected by U.S. Patent



SPECIFY the best, then INSIST on it!



Piedmont New Kohler lavatory with extended front

fits counter depth of 16 inches or more

The Kohler vitreous china Piedmont, of graceful modern design, fills the need for a counter-top lavatory of ample size, with roomy basin, that allows the economy of a 16 inch counter.

The Piedmont has a front overflow, anti-splash rim, and an integral soap dish at each side. It is available in white and six colors. The Centra combination fitting with Synchro pop-up drain is chromium plated brass.



With back flush with wall.

With counter surrounding back and sides. Metal side strips or a U-shaped

rim are used to join lavatory to

First Quality Only

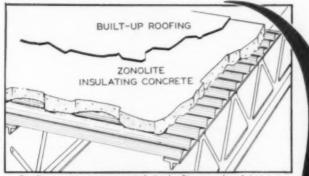
Slip, a mixture of clays in suspension, is tested for proper viscosity. This vital test in the production of Kohler vitreous china fixtures insures castings of uniform strength and weight. Kohler Co., Kohler, Wisconsin. Established 1873

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PLUMBING FIXTURES . HEATING EQUIPMENT . ELECTRIC PLANTS.
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How Zonolite[®] Vermiculite CONCRETE Poured-In-Place Over Corrugated Metal

NOW MAKES POSSIBLE LOW COST • LIGHTWEIGHT • FIRESAFE INSULATING ROOF DECKS!



Zonolite concrete over corrugated metal... Diagram of roof deck just completed on huge shopper's mort in Bridgeville, Pennsylvania.



Pouring 300,000 sq. ft. of vermiculite



This type of joist used where spon exceeded 25 ft,



Placing corrugated metal.



Side clips fasten corrugated metal t



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Easy pouring from concrete buggy, Bull



View on the W. T. Grant Co. store— 3" Zanolite concrete over metal. Super fire-safe.



Construction Superintendent says this deck went on 20% faster.



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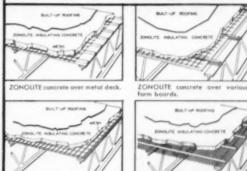
Just off the press. A book you'll want for quick reference...gives details of many roof deck systems...including design data, section drawings, ratings, etc. No obligation. Mail coupon. The construction industry has found the new Zonolite roof deck systems to be superior to all others. This shopper's mart in Pennsylvania (300,000 sq. ft. of Zonolite deck and marquees) went on 20% faster than another type deck used on part of the same job. Also, it was lighter weight and excelled in fire-safety, saving \$1,000 a year on insurance premiums. This Zonolite-over-corrugated-steel and the four other systems shown here are only a small portion of the combinations now made possible. Send for free booklet "Systems of Lightweight Construction."

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These Lightweight Decks Excel in Fire-safety, Permanence!

And Zonolite Is Adaptable To Any Roof Deck Design



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A machine designed by Economy engineers for servicing buildings exteriors.

The architect can now exercise complete freedom in the design of building exteriors, unrestricted by the necessity of specifying movable glass for window washing.

The Wind-O-Washer is electrically operated from the working platform by push button controls for both up and down and horizontal movements. The machine travels on a track, and when not in use, is backed out of sight by means of a turntable or transfer car.

Economy representatives, located in all principal cities, can give personal engineering service on your

problems and make recommendations with estimates. Each installation is individually engineered.

saving and safety.

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PPLES

REDDING MILLER OFFICE BUILDING DENVER, COLORADO T. J. Moore, Jr., Architect N. G. Petry Construction Co., Controctor

This is another example of the many design patterns possible with Cupples' versatile curtain wall construction. By intermixing gray aluminum and vari-colored porcelain panels on the facade, an unusually pleasing, colorful effect is obtained. A series of horizontal and vertical tubular aluminum mullions supports the panels and the fixed, double-weatherstripped lights.

Cupples' dominance in curtain wall design, construction and erection keeps pace with its leadership in the manufacture of aluminum windows, doors and other aluminum products. Our catalogs are filed in Sweet's.

ALUMI-COUTTIC CELLING SUSPENSION
USED TREQUORIOUT BUILDING

The ALUMI-COUSTIC Grid System—exposed aluminum tees—was used to support the acoustical metal ceiling panels, as well as the lighting fixtures. Cupples ALUMI-COUSTIC Grid Systems for Suspended Ceilings permit complete accessibility and flexibility by easy removal and interchange of ceiling panels and lights. Add beauty and washability... at an extremely low cost.



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Knightley Parking Garage, Wichite, Kan. Architect: Overend & Boucher, Wichita



Architectural Concrete PARKING GARAGES

SOLVE OFF-STREET PARKING PROBLEMS



West End Parking Garage, New York City Consulting Engineer: John J. Dwyer New York City

Finding close-in parking space for increasing numbers of automobiles is a vexing problem facing almost every city. Many have found that multi-story concrete parking garages provide the best answer to the problem.

These photos show the possibilities that architectural concrete offers architects for designing parking garages of outstanding beauty and service that should make any city proud. This versatile structural material has rugged strength, unequalled resistance to severe weathering, maximum firesafety and long life.

Architectural concrete parking garages are moderate in first cost, need little maintenance and have extra long life. As a result architects, municipal officials and investors are pleased with their *low annual cost*.

For more information about designing modern, efficient, low-annual-cost parking garages in architectural concrete, write today for free, illustrated literature. Distribution is limited to the United States and Canada.



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A national organization to improve and extend the uses of portland coment and concrete through scientific research and engineering field work



Toxas National Garage, Houston, Texas

Municipal Parking Garage #10, Chicago, Ill.
Architect: McClurg, Shoemaker and McClurg, Chicago





adjustable hardware. Gear lift operated fastener on right-hand leaf permits rear operation as a safety feature



of suspended loads seals off banana ripening room. Patented Jamison hardware permits quick opening, positive closure of oversize door.



Washrooms of another notable building finished in Carrara Glass

 Over and over again, leading architects turn to Carrara Structural Glass when it comes to the specification of a wall finishing material for washrooms in important new buildings. And Carrara Glass has many outstanding qualities which make it worthy of this architectural selection.

CARRARA" GLASS IS:

True Glass of the finest quality. Every piece is mechanically ground and polished. It permits true and even joints, without lippage or warpage. **Beautiful.** Available in ten lovely colors, gleaming Carrara Glass adds a note of distinction and dignity to every building in which it is used.

Permanent. Its smooth, homogeneous surface is unaffected by moisture, soap, damp atmospheres, and pencil marks. Carrara won't check, craze, stain or fade; it won't absorb odors.

Sanitary. Because Carrara is installed in large sections, it has fewer joints and crevices to catch dirt and dust. Its smooth, highly polished finish is easy to keep clean; an occasional wiping with a damp cloth is all that's required.



Alcoa Building, modern home office of the Aluminum Company of America, Pittsburgh, Pa., was designed by Architects Harrison and Abramovitz, New York, N. Y.

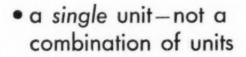




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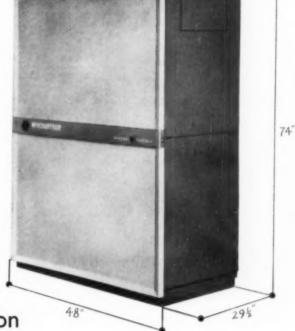
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uses no water...
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Complete flexibility of placement. Weathertron can be placed anywhere—in closet, crawl space, basement, attic, garage, service area, even outdoors! Weathertron thus allows more square footage of useable living space in homes of every design.

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Thousands now in use prove dependability.

Weathertron installations in thousands of homes, stores, offices and factories have not only proved the design benefits of Weathertron in a decisive way...they have established an excellent record for dependable, trouble-free performance.

See Sweet's File 30—\$1. Complete Weathertron specifications are listed in Sweet's File. For additional information, call your local G-E Weathertron representative, listed in the Yellow Pages under Air Conditioning, or write L. Kress Carlbon, General Electric Company, Weathertron Department, 5 Lawrence Street, Bloomfield, New Jersey.

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6 words that spell comfort in a hospital...



Less Noise
Proper Daylighting
Good Ventilation

...and Ceco
building products
make all this
come true

Patient comfort always is a consideration in the building of a hospital. But when architect Leo A. Daly designed the Bishop Clarkson Memorial Hospital, Omaha, Nebraska, special emphasis was given that factor. Hal G. Perrin, administrator, and Robert H. Storz, chairman of the building committee, consulted with architect Daly ... patients were queried . . . all agreed that noise, daylighting and ventilation should come in for critical study. The soundproof characteristics of Ceco-Meyer Concrete Joist Construction and the daylighting and ventilating advantages of Ceco Windows met the requirements. Architect Daly made this further comment on the building method: "This construction is light in weight, but affords exceptional stiffness because of additional depth provided by the monolithic floor and joist section."



Bishop Clarkson Memorial Hospital, selected as the "Hospital of the Tear" Leo A. Daly Co., Architects and Engineers: Peter Kiewit Sons' Co., Contractors

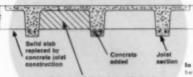
Ceco Steel Double-Hung Aluminum Windows got the call for better daylighting because glass areas are bigger...mullions sleeve together. The windows are tight, a factor in efficient air-conditioning ... they operate silently and are easy to maintain. Ceco helped the contractor maintain a fast pace of construction by coordinated deliveries of reinforcing steel, steelforms and windows. For your next project, consult Ceco Engineers. You can be sure of counsel and service to aid you in adapting the right building product to your particular problem.



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Joist section superimposed on solid slab of equal live load capacity



Concrete eliminated by a chape of section which allows maximum depth for rigidity.

In buildings, there's nothing better than reinforced concrete...rugged, firesate and available now. In ticors, Geomeyer Concrete Jost Construction brings you those adeantages...with savings of 10% to 30% in concrete and steel.



Coco-Sterling Series 200-8
Wandew — Coco - Sterling
Double-Hung Windows assure
minimum air infiltration. Sash
float on stainless size i weather
stripping, providing tight but
easy operating, silent windows.



Meeting Rail Section, Series 200-8: Window — Heavy extruded bus sections assure rugged performance — double contact stainless steel seather strupping provides tightness strupping provides tightness spring cushion stiding contact.



Concrete visors for shading and window washing are dramatized in this view. Shaded windows are Ceco-Sterling Double-Hung Aluminum Windows and Picture Windows.





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PROTECT YOUR REPUTATION, TOO!









When you specify Lowell protective enclosures you're doing more than assuring top performance of sound equipment. You're making sure each installation will give lasting satisfaction because durability and ease of installation are built-in characteristics of all Lowell products.

Lowell CP Series for new construction (XCP for existing construction). Positive protection from dust, mortar, rodents, fire. Heavy-gauge steel with plaster ring attached. Undercoating prevents metallic resonance.

Lowell P Series (box type) with knock-outs evenly spaced. Mount to Lowell grilles, intercom front plates and louvre plates. Deluxe series features adjustable mounting arms. Eight models, 4" to 9" deep.









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GOOD workmanship is one of the most important factors in preventing leaky brick walls.

Good workmanship includes wetting the brick-completely filling the head and bed joints-and back-plastering the face brick.

Expect trouble when dry, absorbent brick are placed in the wall. If their rate of absorption is too high at the time they are laid, they will suck the water out of the mortar too fast, even though the mortar has high water-retaining capacity. The result may be a poor bond, and a leaky wall.

Brixment mortar has high waterretaining capacity. It resists the sucking action of the brick. It stays plastic and workable longer. Brixment mortar therefore provides added protection against excessive absorption—but even when Brixment mortar is used, absorbent brick should still be wetted. In addition to great plasticity, high water-retaining capacity, and bonding quality, Brixment mortar has great resistance to freezing and thawing, and freedom from efflorescence. Because of this combination of advantages, Brixment is the leading masonry cement on the market.

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LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY



50,000,000 Motor Vehicles spur demands for superhighways. Toll highways mean toll booths, gas stations, restaurants, motels and the like. View shows Tarrytown entrance to N. Y.

Thruway Toll Bridge across Hudson River opening day. Thruway and New Jersey's Garden State Parkway use Monel Roofing Sheet on booths and service buildings for long life at minimum maintenance.

Thruway buildings adopt light-gauge Monel ... to lengthen roofing life... cut maintenance

Monel* nickel-copper alloy Roofing Sheet is stronger and tougher than any other non-ferrous roofing sheet. It resists atmospheric corrosion. It's immune to rust.

Another advantage of this nickelcopper alloy is its low thermal-expansion rate. It is less likely to crack under extreme temperature changes. It resists heat, as well as snow . . . ice . . . tearing winds. Stands years of flexing with no sign of fatigue.

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Performance of Monel flashings, gutters, leaders, facia and gravel stops makes this nickel-copper alloy a trustworthy ally of architects, consultants, and engineers. Particularly those concerned with protecting clients from high maintenance costs.

Now is the time to specify Monel Roofing Sheet. It's a natural roofing material for parkway toll booths, gasoline stations, restaurants and service buildings of every type. We'll be glad to give you assistance with any specific job on your boards or in the field.

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One of 40 utility buildings on the N. Y. Thruway, utilizing light-gauge Monel Roofing Sheet. Consulting Engineers: Madigan-Hyland, L. I. City, N. Y. General Contractor: Beacon Construction Company, Boston. Sheet Metal Fabricator: Columbia Cornice Company, Cambridge, Mass.



Monel Roofing ... "for the life of the building"

Add value to homes with windows from

CURTIS



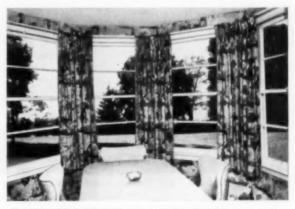
ADD A WHOLE EXTRA ROOM by enclosing a porch with Curtis Silentite Convertible wood windows. These versatile windows—used here as awning style sash—provide any desired degree of summer ventilation—yet have special weather-stripping to keep out the cold weather. In upright position, Convertibles can also be used as casements. Newstyle Zytel nylon hardware is furnished.



PROVIDE POPULAR CASEMENT CHARM with these modern, single-pane Curtis Silentite casements. Silentite casements give home-owners all of the beauty and comfort but none of the grief often encountered with ordinary casements. They won't swing or rattle...lock in any position... and they are superbly weather-tight. They come equipped with screens and insulating glass—and all hardware.



WIDEN THE OUTLOOK FOR OWNERS by using Silentite double-hung windows with a Silentite picture sash. No other double-hung window has all the weather-tight features of these Curtis units. They open and close at a touch—and their streamlined appearance gives them special charm and beauty. Easily installed in any kind of wall. Several styles available for your choice,



INCREASE THE SIZE OF SMALL ROOMS by creating a bay with Curtis Silentite double-hung windows. Here's an arrangement that adds more space—and more charm—to any home. These windows come as ready-to-install units, and go into the house with a minimum of time and effort. Like all Curtis Silentite windows, they are guaranteed as to materials and workmanship.

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Commercial Credit Building, Baltimore. Architect: Harrison & Abramovitz, New York City; structural engineer: Edwards & Hjorth, New York City; general contractor: Consolidated Engineering Company, Inc., Baltimore.

BIG NEW BUILDING IN BALTIMORE

This is the steel skeleton for Baltimore's handsome new 20story skyscraper, shown shortly after topping out by a Bethlehem erection crew. Commercial Credit Company, the owner, and its associated companies will occupy the second through the ninth floors, leasing the eleven upper floors, each providing about 12,000 sq ft of usable space. Areas on the ground and mezzanine floors will also provide rental income. A parking garage is located below street level.

Bethlehem ironworkers used high-strength structural bolts — 75,000 of them — in erecting the 4,850-ton steel framework. This was the first use of these modern, efficient fast-

eners for construction of a multi-story building in Baltimore.

In addition to air-conditioning and sound proofing throughout, design of the Commercial Credit Building includes such features as electronic, operator-less elevators, movable office partitions, non-slip floors and center-pivoted windows. Exterior treatment calls for gunmetal-colored aluminum panels above a first floor facade of Indiana limestone.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation



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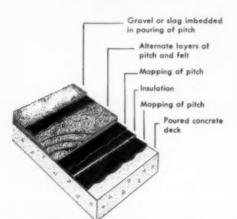
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under a KOPPERS BUILT-UP ROOF



Owner: Sawyer Biscult Company, division of United Biscult Company of America Architects: Skidmore, Owings & Merrill, Chicago General Contractor: George A. Fuller Co., Chicago Roofing Contractor: Brown & Kerr, Evanston



Sawyer Biscuit Company's new plant at Melrose Park, Illinois is designed around the firm's recently developed system of completely mechanized, straight-line production. Completely air-conditioned, this production facility also has a two-floor administration wing for offices.

The insulated concrete roof deck of the building is covered by 3,900 squares of Koppers Built-Up Roofing. Built-up flashing was also installed in conformation with Koppers specifications. Together, the roofing and flashing give the building complete protection from moisture and water penetration . . . protection that is bonded for 20 years.

Coal-tar pitch, the basic ingredient of every Koppers Built-Up Roof, has a unique characteristic known as cold-flow; the ability to heal small cracks and checks that cause trouble for other roofing materials. Since coal tar is water-resistant too, it's little wonder that service records show Koppers Built-Up Roofs far out-live their bonds.

You can get complete information and specifications from our catalog in Sweet's Architectural File 7a or by writing directly to Koppers Company, Inc., Tar Products Division, Pittsburgh 19, Pennsylvania.



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COMPANY OFFERS

The General Electric Company operates Apparatus Sales Offices at local levels where more information on G-E ballasts may be obtained. In addition, a free illustrated bulletin on G-E ballasts may be obtained by writing to General Electric Company, Section 401-19, Schenectady 5, New York.

BUILDING BREAKS RECORDS: The Socony-Mobil building is the world's largest metal-clad office building; largest commercial structure to be air-conditioned initially. Turner Construction Company, General Contractors; Harrison and Abramovitz, John B. Peterkin, Associated Architects; and Edward E. Ashley, Electrical Engineers.

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And most of the teachers were quick to admit that they, too, were a lot happier in classrooms like this. Wouldn't you be? We think you'll find the complete research report by Paul R. Hensarling, Director of Administrative Research and School Community Relations for Port Arthur, Texas, mighty interesting.

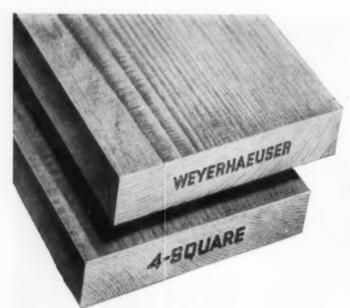
If you'd like, we'll also send you our authoritative, illustrated book that discusses the important things to consider when you're planning school daylighting. Write to Dept. 4176, Libbey Owens: Ford Glass Company, 608 Madison Ave., Toledo 3, Ohio. And feel free to call your Libbey Owens: Ford Glass Distributor or Dealer (listed under "Glass" in the yellow pages) for cost estimates and other help.



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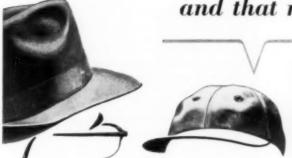
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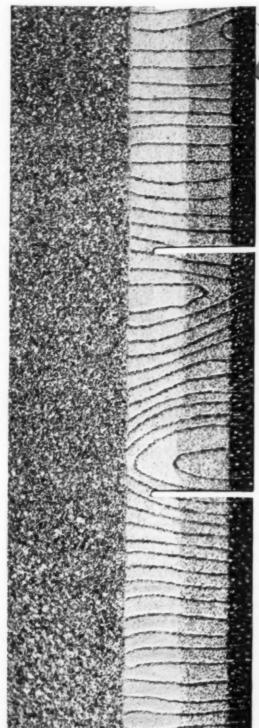
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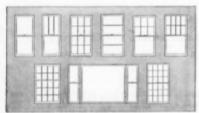


Sheldon House in Litchfield, Connecticut was erected in 1760 by Elisha Sheldon. A fine example of Litchfield houses, in terms of both legend and beauty.

George Washington Looked Out of These Double Hung Wood Windows



Relative inexpensiveness permits generous use of double hung wood windows with metal weatherstripping, even in the most modern homes.



An endless variety of design can be achieved with double hung wood windows. They are easily shaped and their surface receives and holds any type of finish.

On his way through New England, Washington spent at least one night, and maybe more, in the upstairs bedroom to the right of the Palladian window. The four-poster in which he slept is still in use.

As you see, the double hung wood windows, in addition to providing more light and beauty, add considerable style to Sheldon House, now 196 years old. What other material can match the warmth and friend-liness of wood? Also, wood's natural insulating qualities minimize moisture condensation.

Modern double hung wood windows have been greatly improved by the use of efficient spring sash balance and metal weatherstripping, making them really weather-tight and thrifty with utility bills.

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Swimming Pool, Harvey YMCA, Harvey, Illinois. Eugene B. White, Architect

Only TILE looks so well...so permanently

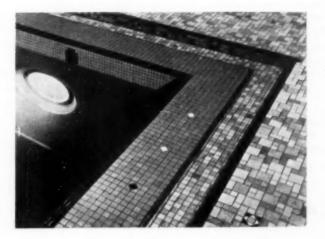
Ceramic tile by American-Olean, from bottom to bleachers, provides lasting beauty for this swimming pool. Neither the tile markings nor the richly-colorful tiled walls and floor will ever need repainting or touch-up.

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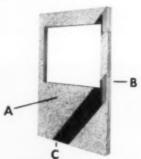
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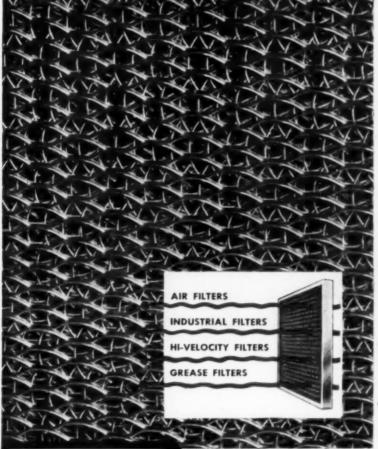
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the advantages of proved structural sections; the economy of Bayley standard materials and a savings in time in approving designs and manufacturing to your requirements.

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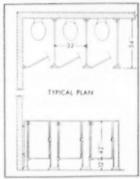
QUALITY construction features, that make Sanymetal Toilet Compartments enduring and low in maintenance cost, are a necessity for school installations. Now Sanymetal offers such compartments, scaled right for kindergarten, primary and elementary grades.

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Specify Sanymetal, to be sure of getting the quality features which offer economy in installation, lasting economy in maintenance, and attractiveness.

See Sweet's, or send for Catalog 93 describing all Sanymetal Compartments. If you wish we will mail you all advertisements in this series explaining construction details that mean quality.



TYPICAL PLAN AND ELEVATION showing recommended dimensions.

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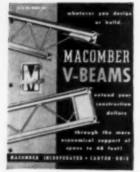
When this product was introduced in 1955 the ruggedness and structural economy it provided were demonstrated so convincingly that today—less than a year later—Macomber V-BEAMS are in nation-wide demand.

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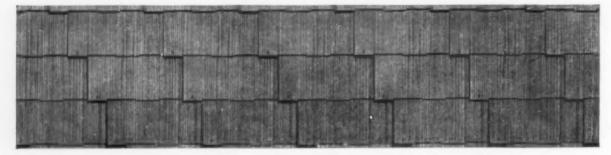
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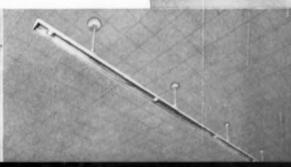
Gibson ORTHO Fixtures need not be stored on the job where they're in the way of workmen and in danger of damage. Actually, Gibson ORTHO Fixtures can be delivered to the job the day before occupancy, because each fixture simply snaps into place in a matter of seconds, just as it comes from the box—sparkling clean, factory-fresh.

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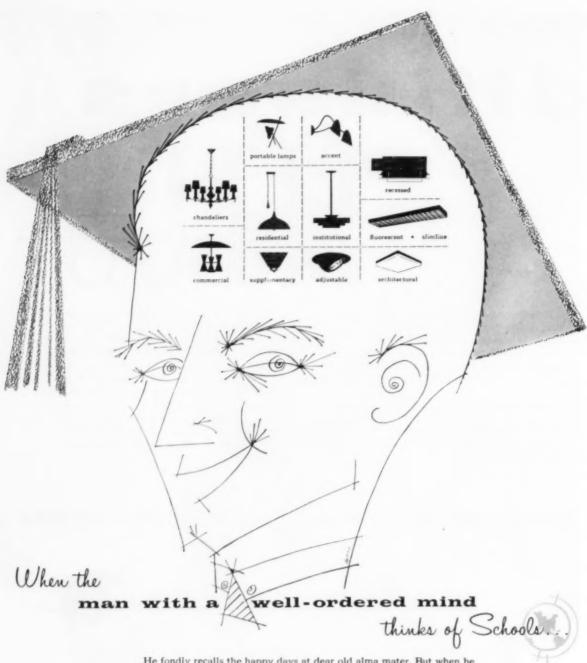
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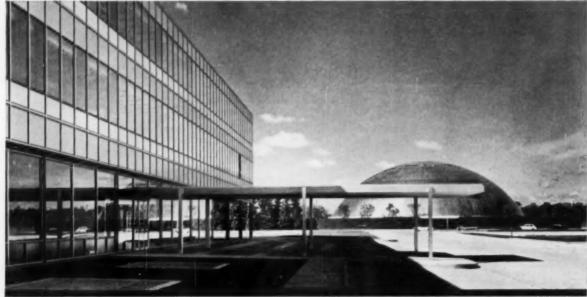
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At the left is the main entrance to the Styling Administration Building and in the background is the domed Styling Auditorium, two of the seven buildings air conditioned by Thermotank, Inc.



This executive office in the Research Administration Building shows a typical installation of Thermotank's custom-designed air diffusers with integrated sprinkler heads.



N co-operation with General Motors' engineers, Eero Saarinen & Associates, architects, and Smith, Hinchman & Grylls, Inc., architect-engineers, Thermotank, Inc., helped design a new high-velocity, double-duct air conditioning system for seven of the buildings in the magnificent General Motors Technical Center. Using techniques developed through 30 years' experience in moving air at high speeds through tight spaces, Thermotank engineers provided a streamlined duct design with noiseless Thermo-Reg mixing boxes and high-velocity ejection ceiling diffusers. which incorporate sprinkler heads and are integrated with the ceiling acoustical treatment. Thermotank invites inquiries about further details of this advanced system of high-velocity, year-'round air conditioning.

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MODERN 4-story office building and 2-story printing plant has 9200-kva connected load. Present demand is not half that,

allowing for secondary switching and growth. 10,000-kva substation capacity, liberally sized feeders also provide for growth.

480Y/277-V General Electric distribution



PLANNING TEAM included (L-R) Frank Sulzbach, Cates & Shepard, electrical contractors; George Rantanen, Turner Const. Co., general contractors; Keith Howe, Pennell & Wiltberger, consulting engineers; Pat Grant of The Bulletin; Glenn Taft, G-E application engineer; Dick Powers of The Bulletin; and Bill Kurlish of General Electric.

277-V LIGHTING permits use of combined light-power system. G-E 265-v ballasts and standard fluorescent lamps supply 40 footcandles in offices and 75 in composing room.



Modern newspaper plant proves economies of higher-voltage system in combination office and production building

Based on cost studies made of similar applications, the *Phila-delphia Bulletin* estimates the power distribution system of its new facilities could have cost 25% more if a combined light and power system had not been used.

LOAD MAKE UP was 5200 kw for press motors, 1300 kw for metal heating, 1100 kw for lighting, 1600 kw for miscellaneous needs. Since most lighting was suited for 277-v operation and most motors and stereotype furnaces operate at 480 volts, a combined system was an economical choice.

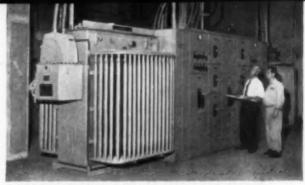
Providing an equivalent system with separate lower-voltage service for lighting would have meant other substations, more

SAFER, more reliable control and protection of stereo furnace circuits results from use of accurately tested and rated General Electric, metal-enclosed, fused panelboards with current-limiting CLF fuses.

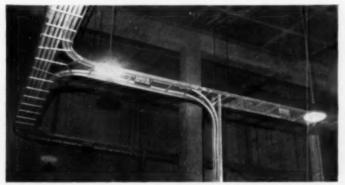




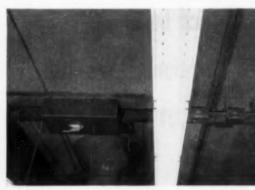
VITAL RELIABILITY of service is provided by G-E metal-clad switchgear protecting dual 13.8-kv service entrance. In emergency either utility feeder can serve the entire building load. Units feature magne-blast breakers.



POWER CONTINUITY is provided by 5 double-ended, loadcenter substations. Secondary-selective system allows either transformer to serve full load if other is cut out.



FLEXIBLE G-E interlocked armor cable carries power to load areas. It costs less to install, is smaller, more accessible than cable in conduit.



PLUG-IN busway allows flexibility of equipment layout. Outlets every foot make it easy to relocate machines.

system permits big savings at Phila. Bulletin

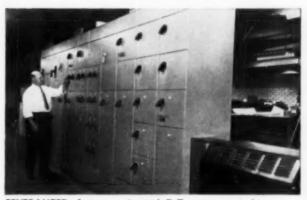
and larger conductors and switching equipment, and much higher first costs. Use of the G-E equipped higher-voltage system allowed large savings in copper and most efficient system layout with interchangeable equipment throughout.

TOP RELIABILITY was required as nothing is so perishable as the news. To help assure power when needed, dual primaries were combined with secondary-selective circuits and highest quality General Electric equipment.

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New CARRIER Modular Units for office building air conditioning—as little as one foot high!

Now the world's finest air conditioning system — the Carrier Weathermaster* System — offers a new modular under-the-window unit as little as one foot high! For modern all-glass buildings, it gives new freedom in design never before possible with a perimeter air conditioning system!

If you want large windows that extend almost to the floor, now you can have them—WITH WEATHERMASTER AIR CONDITIONING! New Carrier Modular Units hug the floor—look like a decorative ledge only one foot high, ten inches deep.

If you want an air conditioning system that fits the building you design instead of having to design a building to fit the air conditioning, now you can have it—WITH WEATHERMASTER AIR CONDITIONING! Small, compact units are designed to fit modern building modules—with trim enclosures that can extend from column to column or wall to wall.

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Find out more about the new Carrier Modular Weathermaster Units. And find out more about the famous Weathermaster System that lets you control the climate you prefer in every room—quietly, quickly, automatically. Call the Carrier office listed in your telephone directory, or write for Catalog 36N-64. Carrier Corporation, Syracuse, New York.



air conditioning - refrigeration - industrial heating



No. 1 in a series

ze by Curtis something 5*pg*

LIGHTING ART-ISTIN

(or how Curtis Engineers and Designers helped this architect and engineer with their lighting problem.)

GENERAL INFORMATION:

The Charles and Emma Frye Free Art Museum installation consists of two galleries in a new addition to the museum's existing quarters. Each gallery measures 26' x 27', ceiling height is 12'. Surface characteristics are as follows:

sand finished plaster acoustical tile Magnesite ceiling plenum walls floor

Luminall No. L-400 white warm gray off-white

burnt orange

THE PROBLEM:

daylight, and a system of perimeter accent lights to high-To design a general lighting system approximating natural light art objects so that they are shown in their true form, texture and color.

Turn the page for the solution to this problem.

Art Hupy Photographer, Scattle

CHARLES AND EMMA FRYE

FREE ART MUSEUM ADDITION, SEATTLE, WASHINGTON

ARCHITECTS: JEAN AND CLAYTON YOUNG, SEATTLE

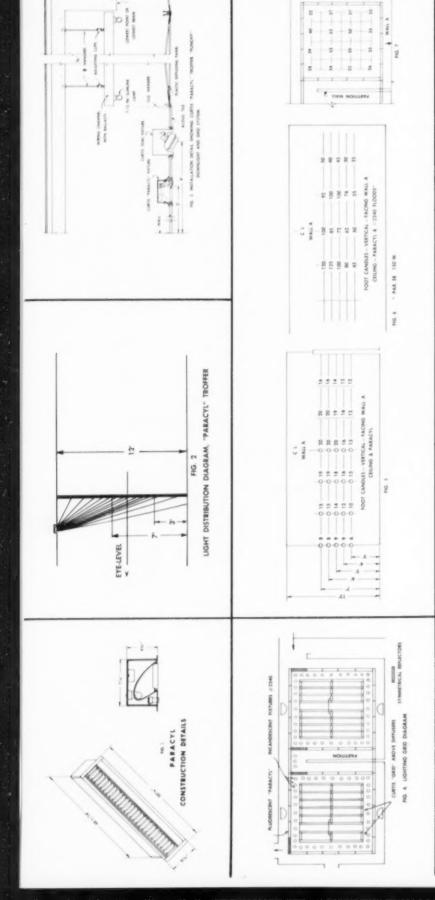
ELECTRICAL ENGINEER: BEVERLY A. TRAVIS, SEATTLE

CHICAGO 38, ILL. 6135 W. 65th ST. in Chicago

LOS ANGELES 33, CALIF. 242 S. ANDERSON ST.

TORONTO 17, CANADA 195 WICKSTEAD AVE. in Canada

ELECTRICAL CONTRACTOR: DONALD W. CLOSE CO., SEATTLE



THE SOLUTION:

Accent lighting for display walls consists of two rows of units, one fluorescent and one incandescent, installed along the perimeter of each gallery. The fluorescent unit is a specially constructed recessed troffer with a "Paracyl" reflector.

These "Paracyl" troffers consist of a steel housing and removable louver, finished baked white Fluracite enamel. The "Paracyl" reflector is diffuse Alzak processed aluminum. The louver provides 30° lengthwise shielding. See Fig. 1 for construction details. Fig. 2 is a typical light distribution diagram of the "Paracyl" troffer.

Thirty-six "Paracyl" troffers, using pre-heat single lamp H.P.F. ballasts for 40-Watt, T-12, 48" Daylight type lamps, are installed 3 from the wall. Four troffers with symmetrical reflectors are installed at each of the four entries to the galleries, to protect visitors entering or leaving the galleries from the concentrated light of the "Paracyl" softence.

To obtain additional accent lighting of a completely flexible nature, and also to provide true color rendition, 82 Curtis Cat. No. 2240 incandescent recessed "Punchy" adjustable downlights, using PAR-38 150-Watt lamps are installed 4 from the wall.

General area lighting installed in the gallery plenums, consists of four Curtis grid lighting systems, Cat. No. 7700, using 74-Watt, T-12, 96" fluorescent Slimline lamps, with 430 ma. lead-lag ballasts, Fluorescent lighting was used because it eliminated the excessive amounts of heat generated by the incandescent system used in the "old" gallery plenums.

To provide the required "natural daylight" effect, Daylight type lamps were also used in the grids. The diffusing element installed under the grid is ½" white acrylic plastic, formed in the shape of a concave dome measuring 2 7¼" x 2 5½". Fig. 3 is a schematic detail of the installation. Fig. 4 shows a lighting diagram of the new galleries.

NOTE: Vertical footcandle readings on the walls with the "Paracyl" troffers and ceiling unit only are shown in Fig. 5, and when the "Paracyl" troffers, ceiling unit and "Punchy" downlights are all in use, in Fig. 6. Horizontal footcandle readings taken directly below the luminous ceiling element, at a table-top height of 30", are shown in Fig. 7. All footcandle readings were taken with a color and cosine corrected Weston Illumination Meter—Model 614.

Unit Substation CONSTRUCTION



from 75 to 500 kva; in primary voltages up to 4800v; secondary up to 600v.

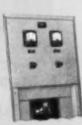




Molded case circuit breakers (left) up to 800 amperes and QMB Saflex fusible switches (right) up to 600 amperes are available in compact panel construction.



Large air circuit breaker (above) up to 1600 amps can be combined with a short penel in one section.





3 single phase, dry-type transformers individually mounted on base in ventilated enclosure - heating and vibration held to a minimum. Transformers easily accessible for maintenance and inspection. When no air circuit breaker or metering equipment is used, entire area at top left is available for pull box.





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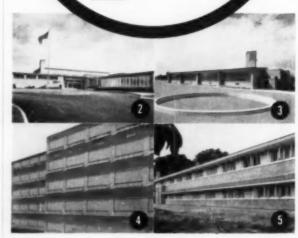
MARMET CORPORATION OF WAUSAU, WISCONSIN

8. Alverno Training School, Milwaukee, Wisconsin. Architect — Maquolo and Quich, St. Louis, Missouri.

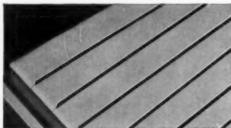
Linden School, Malden, assachusetts. Architect— erley F. Gelbert, Lowell, assachusetts. Architect— Lyons and Mather, Bridge port, Connecticut.

4. Technical High School, St. Louis, Missourt, Archi-tect - F. Fay Leimkuchler, St. Louis, Missouri.

5. State School for the Blind, Baton Rouge, Louistana, Architect Bodman, Murrell and Smith Company







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We'll be happy to send you complete information about Follansbee Terne.

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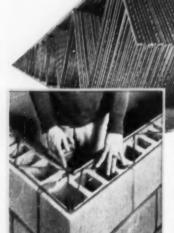


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Write today for Catalog No. 56, and ask for a sample of the new SG finish. See also Sweet's Architectural File $\frac{13i}{Do}$.

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* Firestone Velow surface



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Another CURTAIN WALL by GENERAL BRONZE

The Bank of the Southwest, Houston, Texas Architect: Kenneth Franzheim Contractor: W. S. Bellows Construction Co.

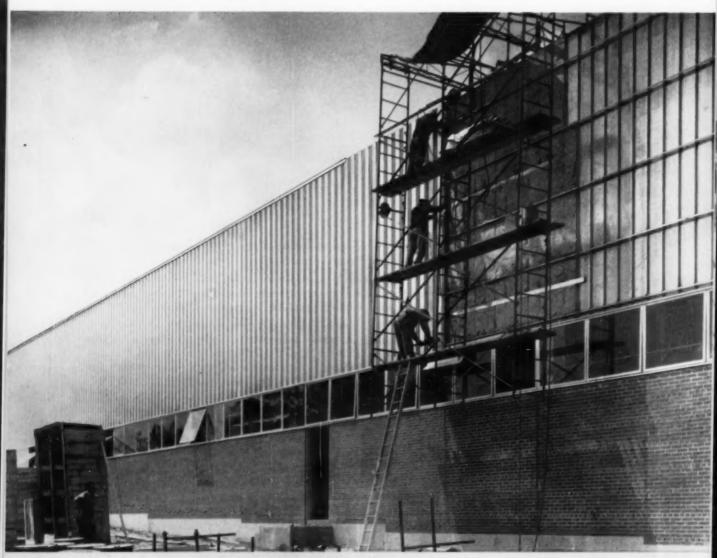


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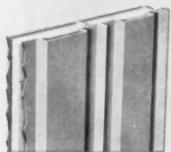
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Mahan Insulated Metal Wall with Fluted Aluminum Exterior Plates being erected on the Body Engineering and Research Building, Ford Research and Engineering Center, Dearborn, Michigan. Voorheis Walker, Smith & Smith, Architects. Bryant & Detwier Co., Gen. Contrs.



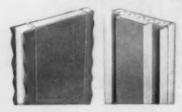
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MAHON FLUTED WALL



MANON RIBBED WALL



FLUSH FLUTED
MAHON PREFAB WALL PANELS

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From an appearance standpoint, bright metal—aluminum or stainless steel—in combination with brick or other materials produces attractive and distinctive exteriors . . . design effects in exterior treatment are virtually unlimited.

Mahon Insulated Metal Walls are available in the three exterior patterns shown at left... in the "Fluted Wall" and the "Ribbed Wall", vertical joints are invisible—symmetry of pattern is continuous and uninterrupted across the wall surface... and both of these walls can be field-constructed up to sixty feet in height without a horizontal joint—two features of Mahon walls which are extremely important in powerhouses and other types of buildings where high expanses of unbroken wall surface are common. These two features were engineered into Mahon walls to give you a finer appearing job without unsightly joints—you'll want these "better look" features in the wall you select for your next building.

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See Sweet's Files for information, or write for Catalog W-57.



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- A UNIQUE HELIPORT DECK Ruberoid specification #206 Coal Tar Pitch and Tarred Felt overlaid with promenade tile was selected to provide a roof that would stand up under rugged service conditions.
- COURT AND LOWER ROOF AREAS These areas, visible to hotel guests, required roofing that

would harmonize with the over-all appearance of the hotel exterior. Ruberoid Specification #203A -Special Roofing Bitumen with green mineral surfacing was selected.

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No matter what *your* built-up roofing problem, there's a Ruberoid specification that will give you the answer. They're all explained in detail in the Ruberoid Built-Up Roofing Specification Book. It's your guide to the best in any type of built-up roofing. For more information write: The Ruberoid Co., 500 Fifth Avenue, New York 36, N. Y.



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The Individual School

and the

Delightful, Never-ending Progress to Perfection

by Frank G. Lopez, A.I.A.

Development of architectural theory and techniques, to accommodate improved educational concepts and teaching methods based on a better understanding of the learning process, is producing architecture for public education of a uniquely high quality

When hazeft coined the phrase we now use for a sub-title, he could scarcely have been thinking of the direction American educational philosophy or school building architecture might take. The date was about 1800, when the American concept of free public education was just getting ready to be born.

We have been told many times that the days of physical pioneering in this country are over; we have turned our exploratory and exploitive talents not toward geographical colonialism but to-



ward the perfection of democratic selfgovernment, of huge commercial mechanisms and of scientific developments. When scholars of a future generation come to assess our part in civilization, to evaluate our achievements against the landmarks in the history of the increasing dignity of man, the material improvements America has contributed to the physical well-being of nearly all its citizens are sure of an important niche. One wonders, however, if the principles of modern democratic republicanism in government — which postulates general and (since some citizens may lack the means) free public education to insure that the electorate, which is all adults, be informed and hence responsible — may eventually rank even higher. Certainly their importance cannot be minimized, and the American public school as an institution essential to our civilization has an assured position.

Our schools have been growing for many years without any more than superficial changes in their underlying educational philosophy. This has been particularly true of secondary schools which for a good many people remain educational terminals; a high school diploma was until recently a pretty good star to hitch a wagon to. But now searching investigation of both principles and practice is under way and examples of new concepts in action are being built, taking the form not only of buildings but also of the faculties to man them and the statements of philosophy which give them life. Those school buildings that accommodate and express educational theories and processes well will become architectural monuments of the future, personifications of an important aspect of our times.

Which adds incentive to the architectural urge to take full advantage of today's technological potentialities. We are progressing on all fronts. Our general scientific advance is at the identical time providing new educational instruments - e.g. television - and constructional means - thin concrete structures as one example - and environmental controls - lighting or air conditioning techniques - which are all approaching essential status. Less easily definable yet recognizable and equally essential are the multiplicity of architectural design expressions ("planning" is too limited a word for such three-dimensional concepts or for their multiple attacks on the human senses) which bring within our grasp a whole succession of perfections each fitted to its conditions of time and place and function and - yes - idiosyncrasy.

The school buildings that follow were selected to demonstrate not only variety in their individual conception educationally and architecturally, but also the interplay of the two professions' theories and talents as well as the technical virtuosity at their command. At the moment the use of TV for educational ends excites great interest. In Hagerstown and soon in all of Washington County, Md., extensive research into educational TV is being undertaken with the backing of the Fund for the Advancement of Education and the

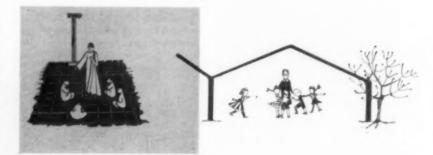




Radio-Electronics-Television Manufacturers' Association, yet completely under the control of the local school board and administration.

The board intends to make a thorough, five-year study of the ways closedcircuit TV may be used by a typical public school system as an integral part of the regular program: in direct instruction of pupils in basic subjectmatter areas; as supplemental motivation and enrichment of the program; to extend in-service teacher-training programs; to interpret the school program to the lay public; to improve the quality of the school program. In so doing it expects to gather data on and to evaluate the effectiveness of TV in meeting certain current problems: the teacher shortage; continually increasing enrollments; lack of classrooms; enhancing the status of the teaching profession; the pupil-teacher ratio as related to instructional quality; school system organization as it affects personnel; distribution of school moneys. The educational implications are profound; for instance, what happens to tenure and

wage rates when a teacher exceptionally capable in the use of this new medium takes on 500 rather than 30 pupils? The architectural problems seem, in contrast, quite easy to solve at present. However, it is far from inconceivable that, under the impact of both such technical advance as TV represents and evolving educational theory in general, instruc-

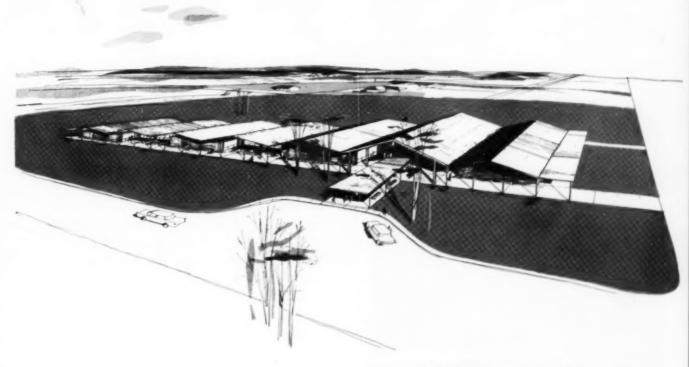


tional spaces in the future may be quite different from our current conception of a classroom. There are indications of changes of this nature in the Texas school herewith and in the Connecticut schools that follow.

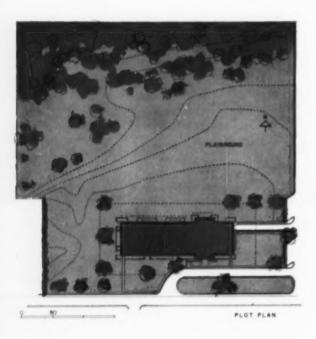


Ulric Meise

THE ARCHITECTURAL CONCEPT fulfills and enlarges the educational purpose: San Jacinto Elementary School, Liberty, Texas. So long after its design one cannot say who initiated the concept of this school's umbrella roof that shelters both open and independently enclosed spaces: the architects (Caudill, Rowlett, Scott & Associates), the superintendent (W. G. Barber) or one of the laymen on the Board of Education. All participated in what the architects call a "dream" session shortly after the need for a small, expandable school had been recognized. The idea came into being then. The dreamers had worked together before, but instead of repeating past performance they used their experience to progress toward more satisfactory protection against a warm, humid climate, and to augment educational possibilities as well as to satisfy known needs.







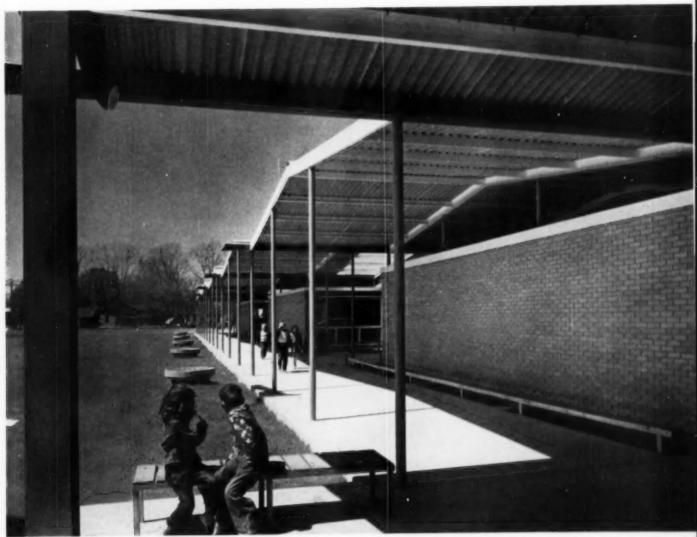


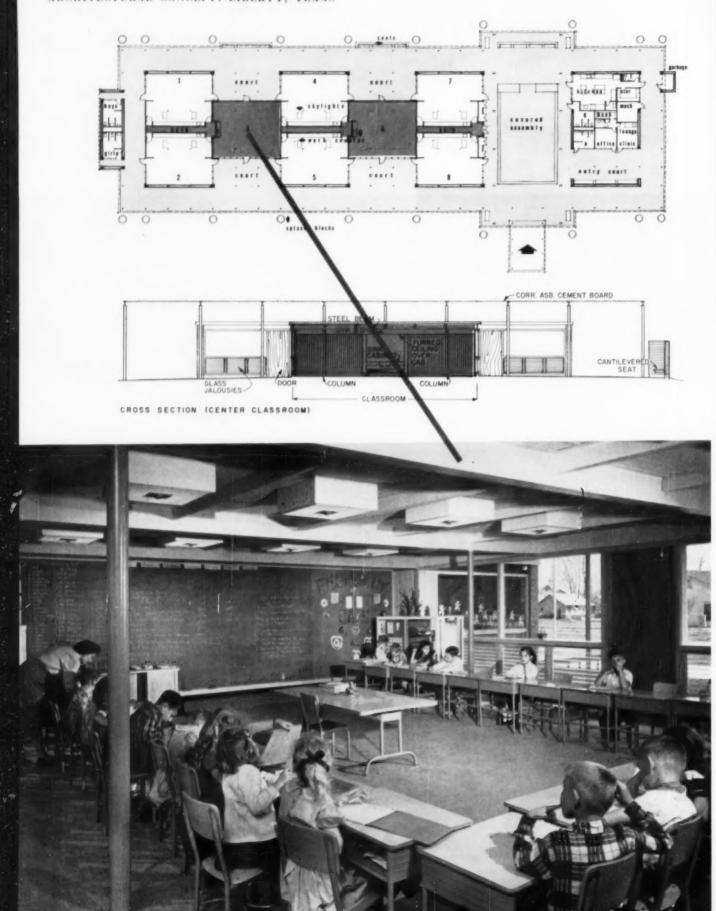
Liberty, Texas, is on the Gulf Coast. The normal January temperature is 54; July, 83. Of course, the mercury sometimes climbs to 108 and occasionally drops to 8; generally though, it's warm. Normal yearly rainfall is 51 inches, with no distinct wet or dry season. To some this average precipitation may not



seem much; but compared to 8 inches at El Paso or 19 at Laredo, to a Texan Liberty is decidedly humid. In fact, there are low, swampy areas on three sides of the community.

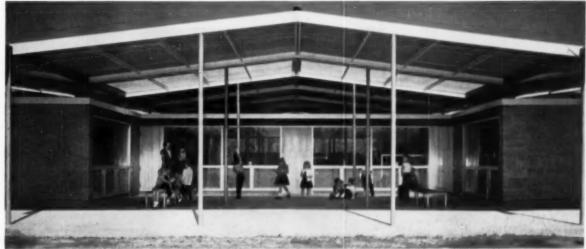
Hence the San Jacinto school's wide, overhanging umbrella roof with free air space between it and the classroom roofs below, to keep the lower roof cool; hence the windows which can remain open on hot, rainy days because they face sheltered courts; hence the covered assembly area, so there will be plenty of room for play when it's sunny and hot as well as when it rains.











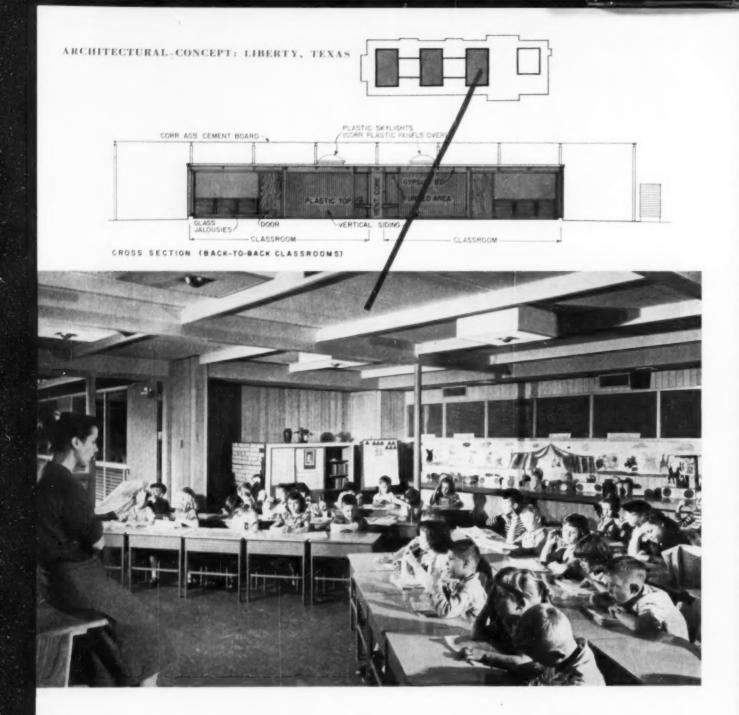
Olric Medsel

The initial enrollment in the San Jacinto Elementary School required eight classrooms. and an increase was foreseen (the addition, by the way, is in progress, and in even the short time since the school was first occupied. enough has been learned so that the added classrooms will probably be superior to the originals). There were to be eating and assembly facilities, administrative and service areas. At first the idea was to have a multipurpose room plus a kitchen. However, during the dream session to which we have referred, it was agreed that eating in the classrooms would have educational advantages and would prove economical; and that an outdoor assembly area was not only feasible in this climate but could also be used as a covered play area.

Since the architects had worked with this superintendent before, they were familiar with his educational philosophy and with his wish that the school be a friendly place for children. At some time during the preliminary discussion of size, purpose, arrangement and type of building, an idea tacitly held gained expression: that children learn wherever they may be, indoors and out; that the "school" was more than the space enclosed by walls.

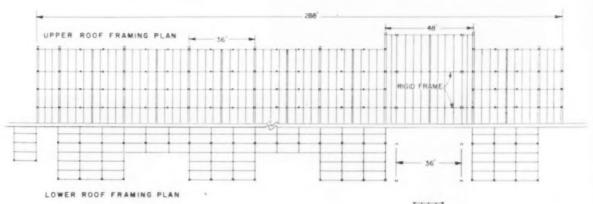
From contemplating these considerations, some dealing with the weather and some educational, came the decision to spread a roof like an umbrella—or more accurately, like a tent fly—and under it to enclose only certain specific areas. The recessed courts, with roofs partly translucent, with areas for growing plants and with benches pleasantly arranged, developed naturally.

On these two pages the single classrooms appear; back-to-back rooms are on the next page.



All the San Jacinto classrooms — the single ones on preceding pages as well as the backto-back rooms that appear here — are crossventilated through glass jalousies and have large areas of fixed glass shaded against sun and sky glare by the tent-fly upper roof. Ceilings are quite low, as the sections and photographs show, which means that the usual pendant schoolroom lighting fixtures could not be used. The square light boxes, large in

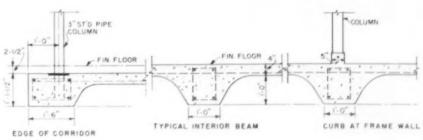
area and louvered to avoid a multiplicity of small "hot spots", will probably outrage the proponents of certain aseptically perfect and quite dull lighting theories. Let it be said, however valid general lighting theory may be. that this lighting works well indeed in this particular school. For a different over-all concept, with higher ceiling, lesser overhangs. less natural light and less concern for economy, different equipment would be needed.





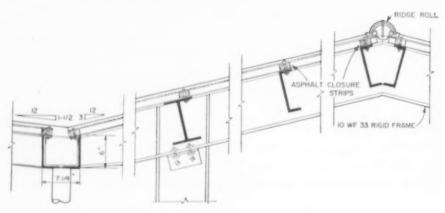


3"ST'D PIPE COLUMN EDGE OF CORRIDOR Sections show simple, identically formed grade beams FOUNDATION PLAN





Ulric Malani



Simple construction of the tent-fly roof

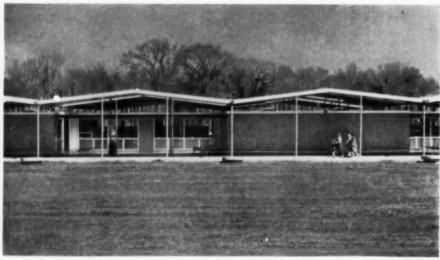




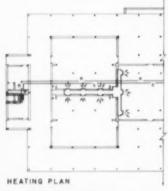
San Jacinto's roofed, open assembly area is reminiscent of the portico, the stoa, or the temple courtyard in which ancient scholars pursued their studies. Its simple construction is an example of what the esthete calls economy of means, and to the taxpayer it spells economy of dollars. The structural system employed was perfected for this individual school; the architects tell us that time and again they have started on sets of standard details, but that for each new job better details seem to evolve and the preceding "standards" are shelved. The architects do adhere to a set of principles, however, and one of these is the use of repetitive structural elements. With materials cut to a minimum, only labor cost remains to be further reduced; routine labor operations resulting from repetitive details accomplish this end. Engineer J. N. Heard of the Van Cleve Construction Co. says that three to four cents a pound were saved on the steel in this school by limiting the variety of shapes and connections, savings that started in the steel company's detailing, were evident in fabrication, and cut erection time. Steel bids reflected these savings. Again, the corrugated asbestos-cement roofing is used in full-sized, stock-sized sheets.



ARCHITECTURAL CONCEPT: LIBERTY, TEXAS



Ulric Melsel

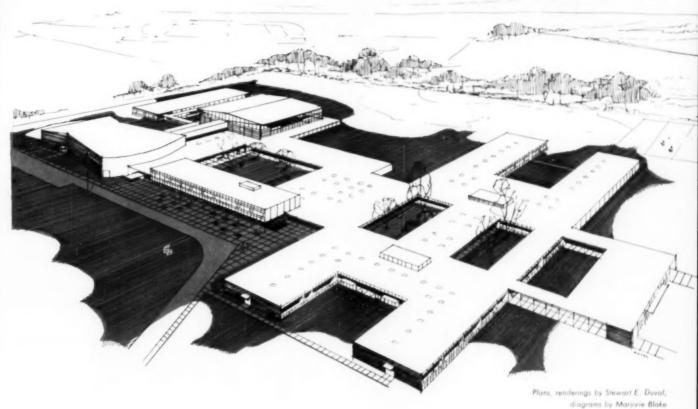


Typical mechanical core

Between San Jacinto's back-to-back classrooms run utility cores containing ventilation,
heat and service lines. Classroom sinks and
work counters back up to the core. Some of
the modularly spaced lally columns are exposed in the classrooms; this has apparently
not interfered with use of the rooms. The
sub-roofs of enclosed areas are built-up and
waterproof. Rain is discharged from the cricketed upper roof into sunken sections of concrete sewer pipe filled with stones.



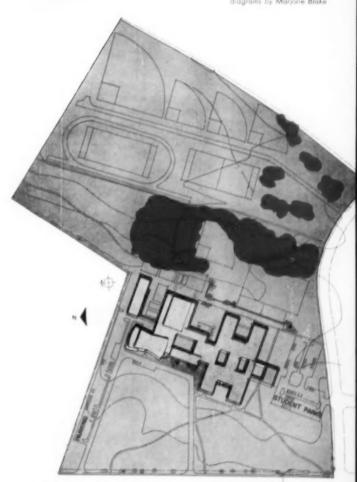


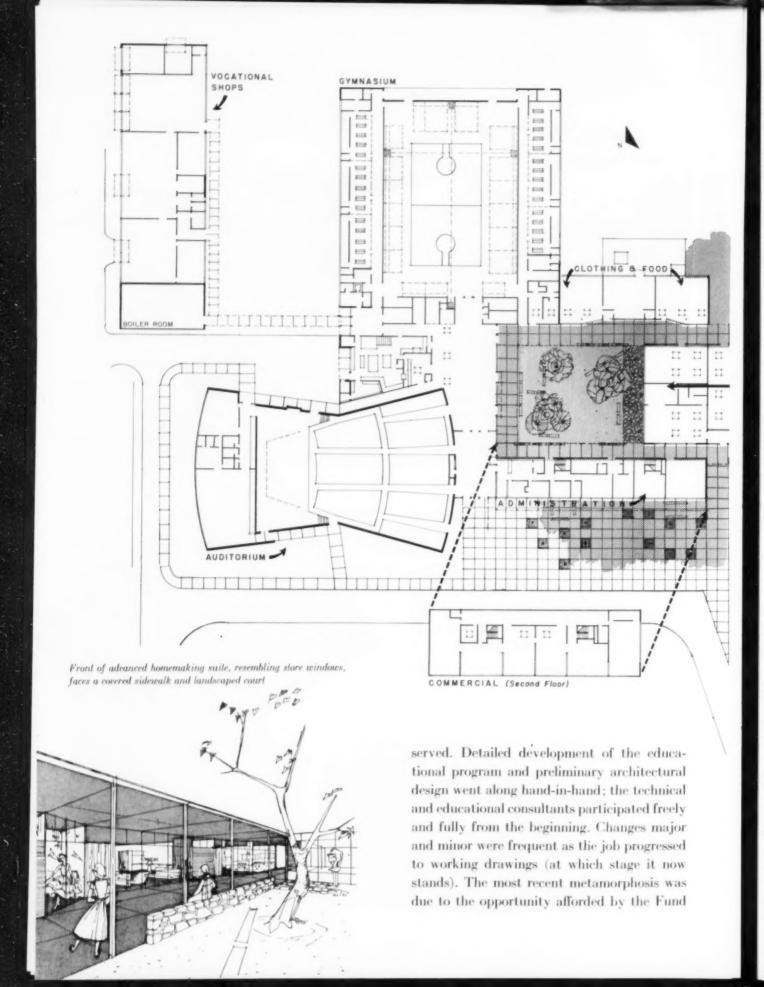


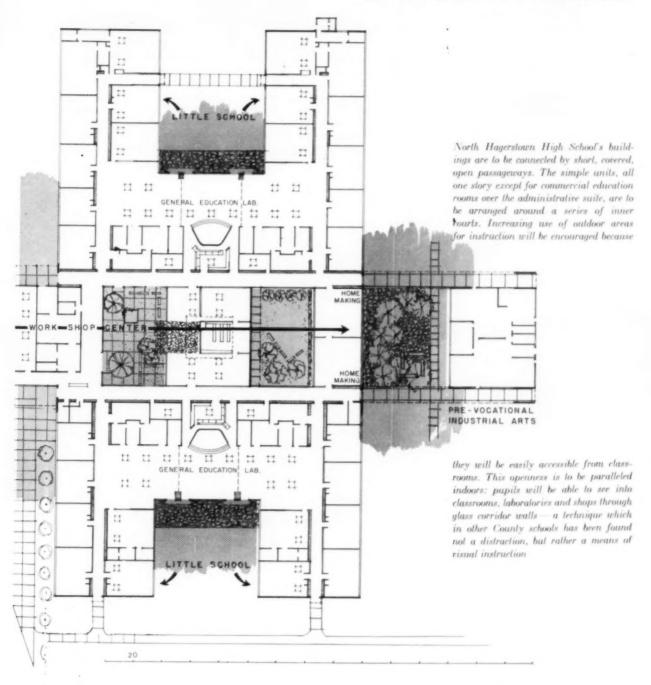
Educational Concepts stimulate and modify the architectural expression: North Hagerstown High School, Hagerstown, Md. Architects, Mc-Leod & Ferrara; Stewart E. Duval, John M. Woodside, Associates. Landscape Architects: Collins, Simonds & Simonds. Structural Engineer: J. Gibson Wilson, Jr. Mechanical, Electrical Engineers: Kluckhuhn, Cobb & Mc-David. Acoustical Consultants: Boll, Beranek & Newman. Superintendent of Schools: William Brish. Educational Consultants: Engelhardt, Engelhardt & Leggett.

The site of North Hagerstown High has about 80 acres; it contains features both restricting and rewarding. The fields are interrupted by swales and rock outcroppings. There is a natural amphitheater with rocks for seats. The trees are Osage oranges, excellent scraggly clumps left undisturbed by the Maryland farmers because too many rocks were involved.

The Washington County Board of Education, says the superintendent, initiated the school program by determining with lay and professional groups the basic purposes to be



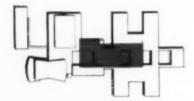




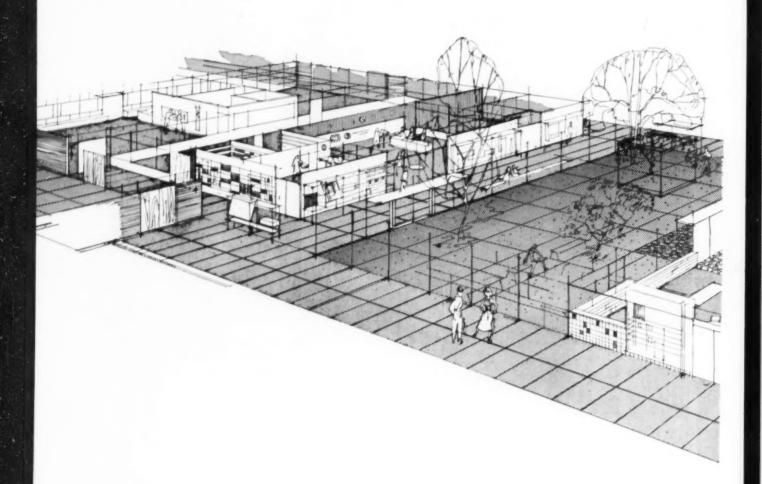
for the Advancement of Education and the Rado-Electronics-Television Mfrs. Assn. to Hagerstown and Washington County to conduct; a five-year, experimental, closed-circuit educational TV project. Behind every decision, directing the design as it was refined, there was always the educational philosophy, which is so well expressed in a long letter from the educational consultants that we quote it in full:

"Here are some thoughts on some of the educational reasons for the North Hagerstown plan.

"Communication Media: We are reasonably certain that, in any given learning situation, the utilization of all the senses is more effective than utilizing one. This is pretty well borne out by the effect of mass communication media such as television, motion pictures,



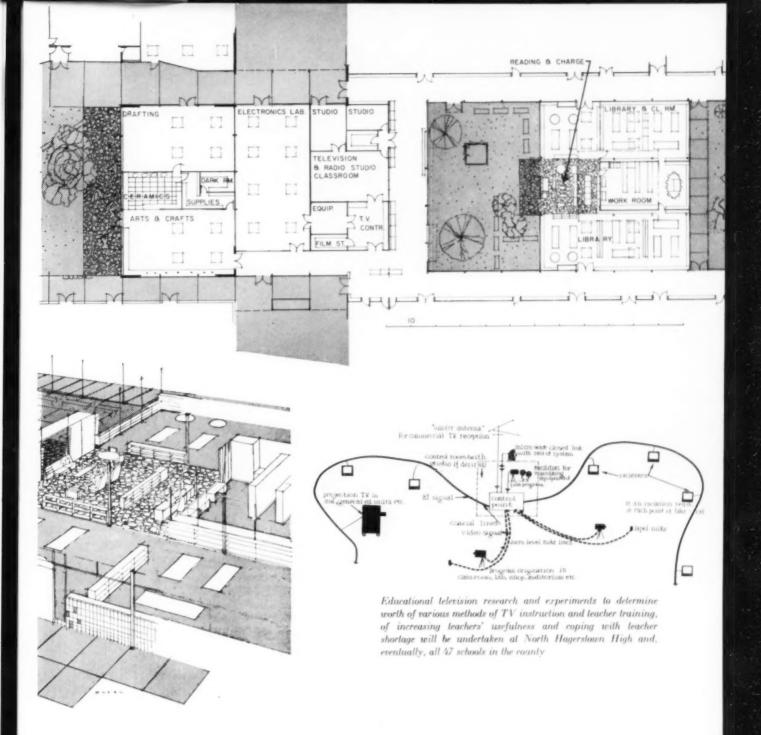
At the heart of North Hagerstown High will be the shops — TV — museum — courtyard — library core connecting all four of the little schools. The TV studio is planned as the eventual center of the experimental program; electronics and arts shops serve both the studio and the little schools; the library court, like the others, is to be mostly graveled or paved, to have comfortable benches and Japanese maples, Russian olive or dwarf fruit trees asymmetrically disposed. Between this court and the studio a wide corridor will be also a museum-exhibition area, with displays on space-frames



pictorial magazines which utilize art, drawing, color, word and sound to develop a total impact. In formal education, we have continued to utilize a gadget, the book, as the principal learning tool and have been slow to develop other tools affecting other senses. Undoubtedly as we progress we will develop communication procedures which will be more effective in both speeding the process and

increasing retention of the matter to be learned.

"Formal learning is moving away from the simple process of going through the textbook page by page and memorizing the words, moving toward enrichment of subject matter and application of knowledges and skills required from actual experiences. Already we have used slide films, motion pictures, record



players and recording machines to supplement the book. Perhaps we must do more.

"It seems clear that there is even more of a need than we have hitherto recognized for coordinating the visual arts with the learning process. Perhaps you will see something of this in the central core of North Hagerstown High School which is really a center of communication arts. It includes the library, electronics laboratory, television studio, motion picture equipment, art studio, and mechanical drawing laboratory. Also, you will note that across the corridors are audio-visual rooms which serve as recording and viewing rooms for individuals and small groups. Bringing all these communication media physically together may help teachers and students to coordinate them and improve their use and impact.

BOARD OF EDUCATION OF WASHINGTON COUNTY, MARYLAND PLAN FOR EXTENSION OF CLOSED-CIRCUIT TELEVISION FACILITIES

SEPTEMBER 1956; 8 SCHOOLS	SEPTEMBER 1968: 47 SCHOOLS			
HAGERSTO	HAGERSTOWN AREA and WASHINGTON COUNTY			
HIGH SCHOOLS South North ELEMENTARY-JUNIOR HIGH Washington ELEMENTARY Antietam Broadway Howard Pangborn Boulevard Surrey	HIGH SCHOOLS New North ELEMENTARY-JUNIOR HIGH South Potomac ELEMENTARY Chewsville Fountaindale Funkstown Halfway Huyetts Lincolnshire Maugansville North Street Paramount Salem Avenue White Oak Forest Winter Street Woodland Way	HIGH SCHOOLS Boonsboro Clear Spring Hancock Smithsburg Williamsport Williamsport Boonsboro Beaver Creek Cascade Clear Spring Dargan Downsville Fairplay Greensburg Hancock Indian Spring Keedysville Leitersburg Mt. Lena Pinesville Rohersville Sandy Hook Sharpsburg Williamsport		
,000 pupils participating in closed-circuit . V. instruction	12,210 pupils participating in closed-circuit T. V. instruction	18,000 pupils participating in electd-circuit T. V. instruction		

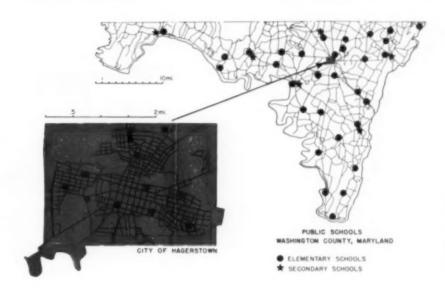
"Guidance: At North Hagerstown the guidance program does not follow the usual practice; it is not associated with the administration offices. Guidance grew up as a segment of administration largely because it was superimposed upon subject-matter departments. It is clear, now, that more satisfactory guidance results when it is associated with daily activities of boys and girls in classrooms and in their normal social environment. Certainly guidance should be an activity pursued in the classroom, where the teacher does more of the work and specialized personnel assist. To accomplish this we have provided for a guidance counsellor in each little school, with his own facilities immediately available to all boys, girls and teachers in that area. No longer does a boy or girl have to 'go to the office' for guidance. At North Hagerstown guidance can be somewhat less formal, more freely de-

veloped, immediately available, and coordinated with all other activities.

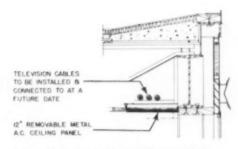
"Coordination of Subject Matter: This long story begins with the Latin grammar schools, which were extant from 1635 to 1800. They were college preparatory institutions offering approximately six subjects: Latin, ethics, literature, religion, Greek, Hebrew. They trained for college entrance for the professions.

"Then during the first half of the 19th century, academies arose. These had broader scope and increased subject matter to meet the demand for scientists, navigators, teachers, lawyers and businessmen. They were tuition schools. With their development came the demand for free schools; and from this developed public high schools: first in 1821, with the unique ambition to train youth for 'life's needs', still carrying on the college preparatory idea but adding more subjects.

The experimental closed-circuit TV program supported jointly by the Washington County Board of Education, the Fund for the Advancement of Education and the Radio-Electronics-Television Mfrs. will eventually include all county schools. For maximum flexibility, co-axial cables are to be installed in buildings so they can be tapped at many points. At South Hagerstown High (skelch below), now under construction, cables will run along exterior walls with access through removable ceiling panels







DETAIL - CONTINUOUS ACCESS TO TELEVISION CABLES

Such schools had about 75 subjects in 1850; 156 in 1928; 274 in 1949. Thus the practice has grown of requiring boys and girls to choose among an increasingly wide range of opportunities without experience on which to base choice. Subject-matter departmentalization came into being with resulting isolation of each subject field. Each teacher believed in the importance of his particular subject; there developed competition for students' time and energies; competition to get boys and girls into the subject field, competition in giving homework, competition for extra-curricular time.

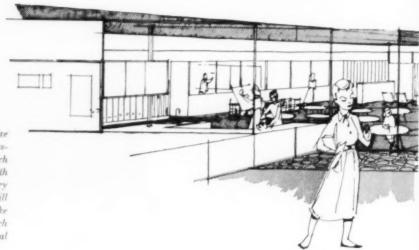
"The school became a subject-matter school, not a boys' and girls' school. This was accentuated in building design, where often the art department was on the third floor north, the English department on the second near the library, the science department on the third in the southwest corner, isolated to let fumes out.

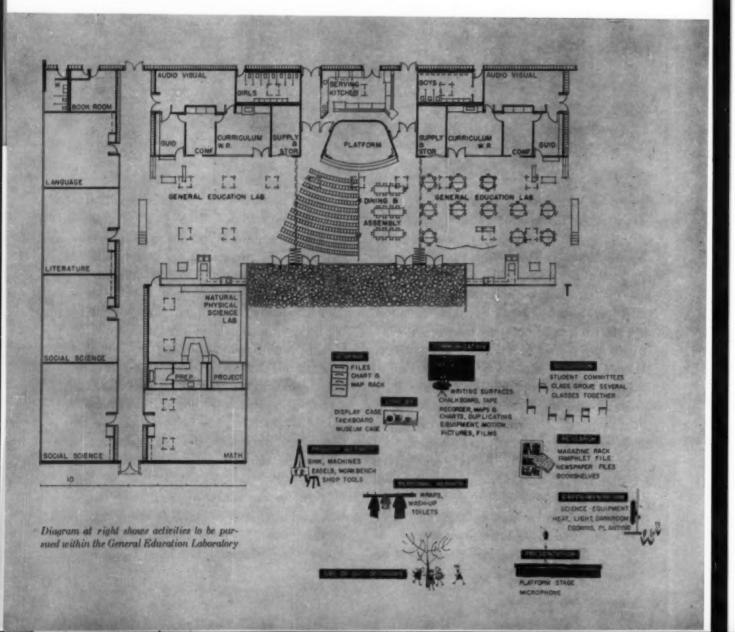
"Today we are trying to transform the subject-matter curriculum into a coordinated whole more meaningful to the student, to eliminate useless content and take on new that may have bearing on life's activities. We hope to do this in North Hagerstown by bringing together many of the teachers and breaking up the traditional departmental lines. The curriculum workroom in each of the little schools is a place for coordination of effort among teachers, a place where each can see the others' problems and perhaps plan to share those things which are mutually valuable.

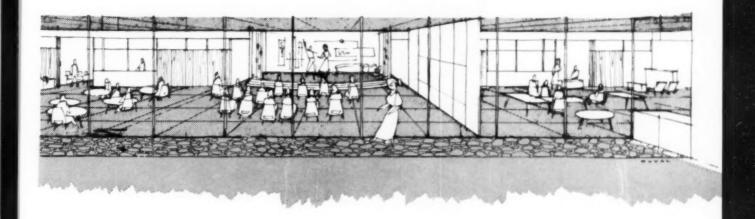
"Focus on the Individual: Secondary education in the United States is a unique social phenomenon. This is the only country in the world where education is offered to all teen-



To obtain the advantages of both the large school's extensive program and the small school's intimacy, North Hagerstown High is to be composed of four little schools, each complete with its own faculty and student body, each with a series of rooms around a general education laboratory (sketch at right). The general education laboratories will serve two little schools each; folding partitions will make it possible to expand or contract the area used by each school; here the pupils may eat (food carts from the central kitchen will fit into the serving counter)







agers. The growth of enrollment in United States high schools goes like this:

1900 - 520,000:

1930 - 4.400,000:

1955 - 6,600,000;

and is estimated for 1970 - 9,350,000.

In order to take care of all these young people we have had to devise unheard-of techniques for mass education. Up to this point, education, by and large, depended on a relationship of scholar to disciple or teacher to student. Nobody has really had any background for dealing with a situation composed of 1000 students, a few teachers, and 274 subjects. Consequently we have had to improvise techniques, some of which are:

- 1. Standard class size.
- 2. Six, seven or eight periods per day.
- 3. Standard length of day.
- 4. Standard number of days in a year.
- Standard curriculum content and to a great extent standard method.

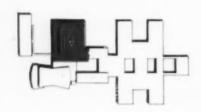
Match these against the psychological needs in the learning situation, which may be in part:

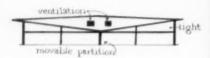
- Each individual varies in speed of learning and in interest in those things to be learned; therefore the program must be tailored to the individual rather than to the group.
- We need to extend content for the gifted and to slow the pace for the slow-to-learn.

- We know that interest and motivation are vital to learning; yet in high schools we do little to create interest before we hand the student a textbook.
- Teachers need time to pay individual attention to pupils.
- There is need for adjustment and readjustment of programs throughout the school year to fit the needs of those who are learning.

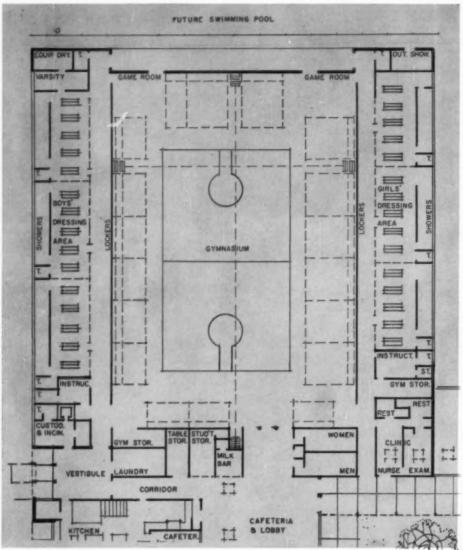
"Perhaps television can help by providing diversification of opportunities and by releasing teachers' time for more individual attention where needed. The General Education Laboratory is planned to have at least one teacher in charge at all times. It is not a traditional study hall; it will afford opportunity for developing individual interest, experimentation and activities in many fields,

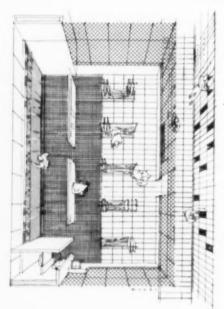
"Enriched Content: The holding power of our high schools is still not too good. In 1949, we graduated 481 out of every 1000 boys and girls who had been in fifth grade seven years before — a terrific loss. This was costly too, considered as loss of potential manpower in our economy. We also know that subject-matter content has often been mired in details of considerable unimportance. We are slow to discard unimportant content. For example, the first chapter in the physics book may be on





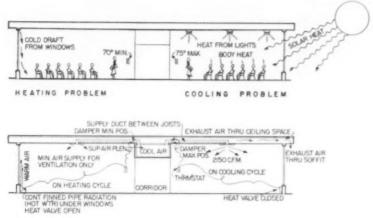
Innovations in physical education unit: diamond-shaped roof trusses with folding partition suspended from low point to reduce its height; inclusion of health suite here, not in administration; wire enclosed dressing rooms, showers behind dwarf walls, lockers along corridor wall—all to ease supervision and multiply use



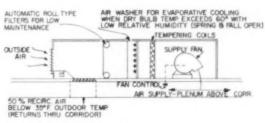


Newtonian mechanics although we live in a day of nuclear energy. We still use the Mercator projection in an age of space satellites. We hope that by coordinating teachers' efforts and by planning in these little schools, it will be possible to determine for each area of subject matter a rightful content and place in the educational program for each child.

"Applying Our Growing Knowledge of Basic Techniques of Learning: We must create interest and excitement for the majority in any learning situation. Relatively few students

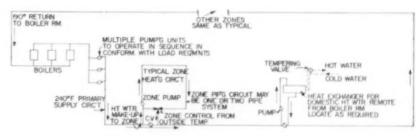


THE SOLUTION



TYPICAL AIR SUPPLY UNIT

Mechanical systems are of advanced design: boiler room supplies high-temperature, high-pressure water in a continuous circuit to entire plant through a small-diameter main; this is tapped whenever necessary to heat exchangers serving local circuits for room heating, domestic hot water, etc., and the high-temperature water is returned to the main. As in other aspects of the school's design, efficiency, good performance, inexpensive installation and maintenance were the objectives

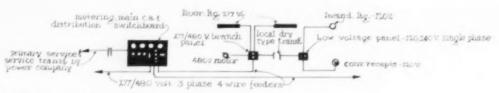


DISTRIBUTION SYSTEM - HEATING

find themselves intellectually curious without such a catalytic agent. Success is sometimes associated with belonging to a group. We hope to be able to bring this feeling of 'belonging' into the little school area as well as into the social programs which will develop in the school in areas such as the social court and the cafeteria-commons. We also want to provide for the interplay of thought and action; this is one of the basic purposes of the General Education Laboratory. We hope also that we can adjust to the varying time requirements

of boys and girls, allowing the gifted to move ahead and the slow to adopt a slower pace, by individual attention of all the teachers working together as a team in the smaller school units.

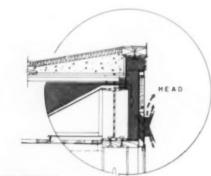
"These concepts of education underlie an educational program out of which grew the North Hagerstown plan. Of course, there is much more that could be said, and facets of these generalities have entered into our thinking and determined the organization of facilities. For example, the shops have always



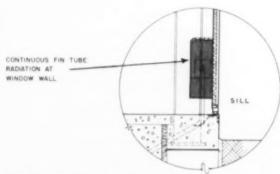
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Expected savings, comparable electrical system at South Hagerstown High; see lext



DETAIL - EXHAUST AIR TRAVELING FROM CLASSROOMS THROUGH CEILING SPACE TO OUTSIDE



DETAIL - PORCELAIN PANEL WALL CONSTRUCTION

been thought of as being a unit separate from the rest of the school; here we have brought mechanical drawing and electronics and other shops into the academic heart.

"Where do we go from here? All we can say is that the possibilities in secondary education are inspiring and exciting. The need for creative thinking is great."

ELECTRICAL DESIGN

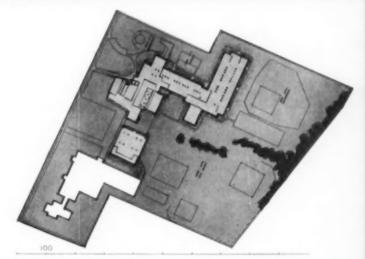
The electrical system is to be one of the comparatively few high-voltage installations in schools. After much study, and upon obtaining the local power company's agreement to supply high-voltage current, a 480/277-volt, 3-phase, 4-wire system was decided upon. Heavy feeders will supply high voltage to panelboards serving fluorescent lighting and motors of 3/4 hp and larger. To small motors, convenience receptacles, etc., small, dry-type transformers will supply 120 volts. The high distribution voltage and proportional reduction of current permit substantial economies.

Bids have not been let on North Hagerstown High as this is written. However, a similar system is installed at South Hagerstown High, now under construction, with reduced installation costs of a magnitude indicated in the accompanying table. It should be noted that sizes and quantities shown in the table are accurate; that prices are list, subject to discount; that only the cost of wire is shown, ignoring a further slight reduction in cost of raceways; that labor has not been included though here, too, some additional saving can be expected; and that some small liberties have been taken with voltage drop in order to maintain a single feeder size.



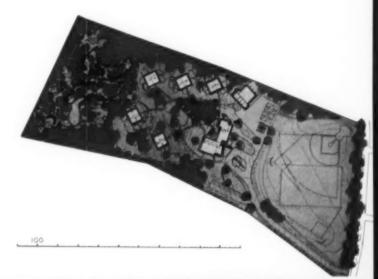
Joseph W. Molter

RESTRICTED URBAN SITE: Whiting Lane Elementary School, West Hartford, Conn. On this limited site there already existed a junior high school. Besides the 530-pupil elementary school, the junior high needed a gymnasium. The elementary building therefore had to be quite compact. The architects (Moore & Salsbury) and the superintendent (Edmund Thorne) wanted a school both humanly pleasing and more than adequate educationally. Besides a functional, pleasing building, a mural and sculpture were integral necessities.



Techniques Differ for Adjacent, Unlike Situations

Parklike Urban Site: Wilbert Snow Elementary School, Middletown, Conn. This prize-winning 600-pupil school, only about 16 miles from West Hartford, has quite a different situation. There are 25 acres of wooded, sloping land. The architect (Warren H. Ashley), superintendent (Creighton F. Magoun) and land planners (Charles Currier & Assoc.) agreed after considerable study on a series of 4-room cottages, to make best use of the site and to keep costs low so gym, cafeteria, auditorium and library facilities could be built.



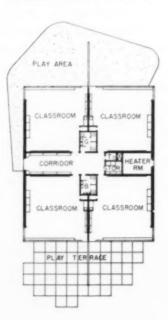


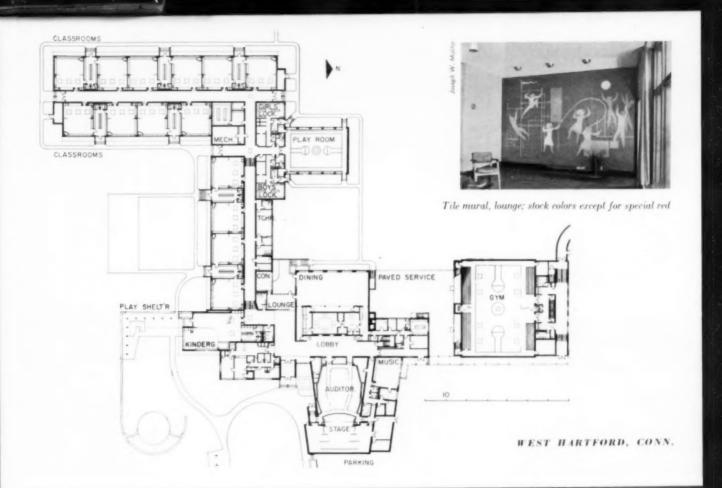


DIFFERING TECHNIQUES

Considerable research preceded design of both the schools here contrasted. In the case of the West Hartford building, trips to investigate lighting techniques and building materials led to decisions to install incandescent fixtures providing 20 footcandles at desk height, because ample daylighting was expected to minimize the importance of artificial light (this was justified by results); and to employ porcelain enamel extensively because of its light weight, easy maintenance and the opportunity it offered to introduce good color, and also because a manufacturer was willing to help develop many new applications. Lift-slab construction was employed for the Middletown cottages to reduce insurance and maintenance costs, to provide high quality construction at low cost, to save time and to permit fluorescent light troffers to be cast into the ceiling slab. Marchant & Minges were engineers for both schools.

MIDDLETOWN, CONN.











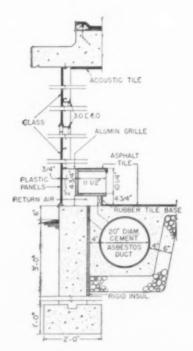




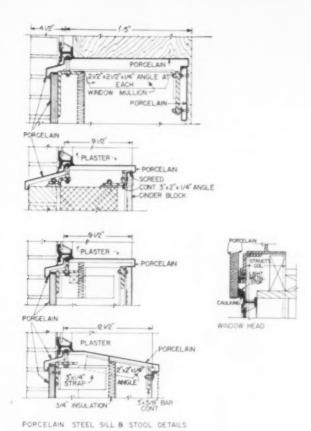
DIFFERING TECHNIQUES

MIDDLETOWN, CONN.

The 4-classroom units at Middletown solve several problems simultaneously. The district has a rural heritage. Although its one-room schools have disappeared, the 4-room school has not; in fact, this plant replaces a 3-room building. Further, "the high morale of teachers and pupils in smaller buildings has made us doubt the virtues of bigness," says the superintendent. The outdoors is being used educationally to study wildlife and by moving entire classes outdoors, in spring and fall, to the screened, paved play areas. Each classroom has a full window wall and one wall highwindowed. There are two small oil burners per cottage, each serving a tempered-air system supplying two classrooms (adding cooling would be simple). Building additional cottages would not disrupt the school.



Lift-s'ab details



The architects say: "We decided that young children are far more sensitive to line, color and form than is usually believed . . . (that) architectural environment is satisfactory only when spaces are sized and arranged to fulfill their use comfortably (and pleasingly) . . . we made no attempt to force the scale down to so-called child size nor did we attempt any cute detailing." Each classroom can be divided to form a work alcove or stage, or to set apart an area for audio-visual uses. Classroom equipment includes specially designed movable storage tables, plant-growing boxes, etc. Details at left show a few exterior uses of porcelain enamel; it is also employed for fascias, sculpture and playroom roofing; and, on the interior, both perforated for acoustical purposes and plain.

WEST HARTFORD, CONN.











DIFFERING TECHNIQUES

MIDDLETOWN, CONN.



Low cost of Middletown's cottage school made possible the much-wanted separate gymnasium, library, auditorium and cafeteria, all now fully used by adults. Library and park boards cooperated; a branch library was opened before the school was occupied; park authorities helped provide extensive playing fields. Gym has lockers and showers for adult use. Auditorium (325 seats, large stage) is much used as a "Little Theater."





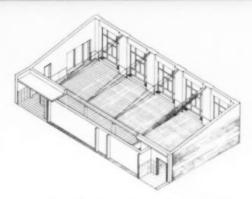


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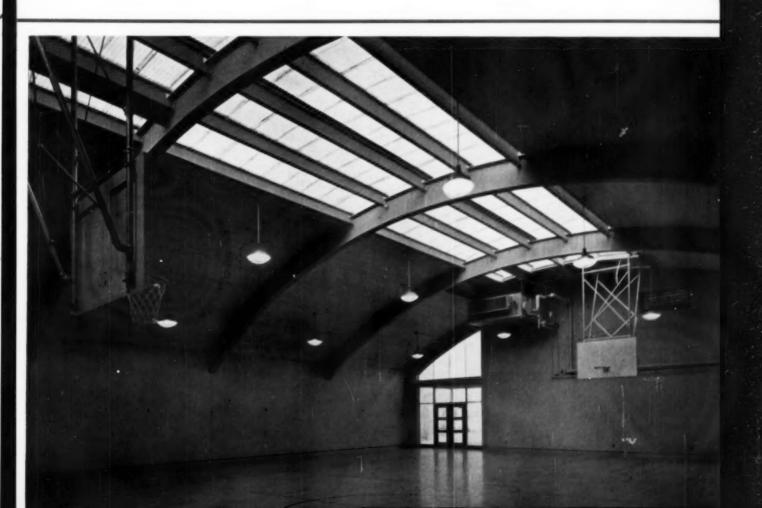






Care was lavished on both the esthetic and the technical aspects of design of the West Hartford school. The kindergarten (opposite page) was planned for both group and individual activities. The dining room (boat-shaped trusses and sloping ceiling, sketch above), auditorium, music and practice rooms are all shaped to provide optimum acoustical conditions. Heating is vacuum steam with fin radiation. The framing is light steel with bearing walls at corridors; floor slabs are concrete.

WEST HARTFORD, CONN.



SCHOOL DESIGN: PROGRESS TOWARD PERFECTION

Another American characteristic, our satisfaction with nothing short of perfection, is quite evident in our contemporary school buildings. Its attainment is indeed a never-ending progress, to recall the quotation from Hazlitt with which this brief study began; there is always a better way to do things, a better building to design; and our satisfaction (that is, our delight) lies at least as much in the continual effort to improve on past performance as in the performance itself. It is important that this continue to be so for many reasons, of which one is the state of flux of American educational theory.

The hazards are many. The urge to experiment may lead to mistaken concepts. There is a pressure, to provide space, space and more space for teaching, to do this at the lowest-possible cost, to satisfy the idiosyncrasies to which we have referred; and the experimenter under pressure may compound his errors. To cut costs we lower ceilings, saving the cost of unused cubage and perimeter walls and relying upon artificial rather than natural lighting—and incidentally compounding the technicalities of the lighting problem.

But we tackle such difficulties with enthusiasm. For instance, North Hagerstown High School, whose design is so largely dictated by educational demands, had to have low ceilings if the mere area the educators needed was not to be excessively expensive. At the same time, low-brightness lighting was required for physical comfort; a 30-footcandle minimum illumination was desired so that little additional lighting would be needed for originating TV programs in any teaching area; and conventional fixtures designed as pendants had been found not to work well with low ceilings. Pendant fixtures depend upon an upward distribution of light and use of the ceiling as an indirect source for effective reduction of glare and contrast. When such a fixture is mounted close to the ceiling the entrapped light immediately above the unit tends to increase contrast, not to reduce it.

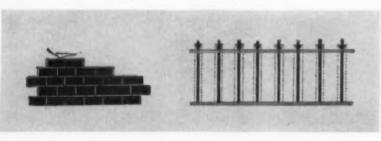
At North Hagerstown the problem is

approached by decreasing the brightness of the fixture, and by using direct lighting units, utilizing the reflection from light-colored floor and furniture finishes to illumine the ceiling satisfactorily. The direct, downward illumination is relied upon to light the pupils' tasks in the most efficient manner.

The fixtures chosen are 2-tube, rapidstart fluorescents with each tube mounted in its own parabolic alzak aluminum reflector. These afford 45degree shielding crosswise and present the lowest possible brightness to the viewer. In order to save the extra cost of recessing the fixtures it is planned to mount them in a plain, white-enamelled steel box, 5½ or 6 inches deep, set on the ceiling surface. The standard troffer described is already offered by some companies in this type of housing.

There are many more such technical innovations in prospect in these and many other schools, all devised as the best current practice to meet the needs of individual situations. All have their merits; and without them what progress would we be making?

Nor is the experimentation generally costly; usually it is motivated in part by the absolute necessity of staying within a budget that is never large enough. The Wilbert Snow School in Middletown, Conn., cost \$1,396.83 per pupil, \$67.26 less than the average in its state for a period ending two years before the Snow School was occupied. Its total cost, including site, equipment and fees as well as construction costs, was \$838,100; its classrooms are larger than the state's minimum requirements. The North Hagerstown High School is not sufficiently far along to predict costsbids have not been taken - but it looks as if it will cost about \$1700 per pupil. which is less than the Maryland average, roughly \$2000, estimated for contemplated construction in the future (source: Report of the Long-Range Planning Phase, School Facilities Survey, U.S. Office of Education.) The Liberty, Texas school is also inexpensive. In every case the low cost is the result of savings inherent in design, not of shoddy materials or cheap finishes.





RESIDENTIAL COURTS

Shreceport, La,: William B. Wiener, Architect: Frank Lotz Miller photo-



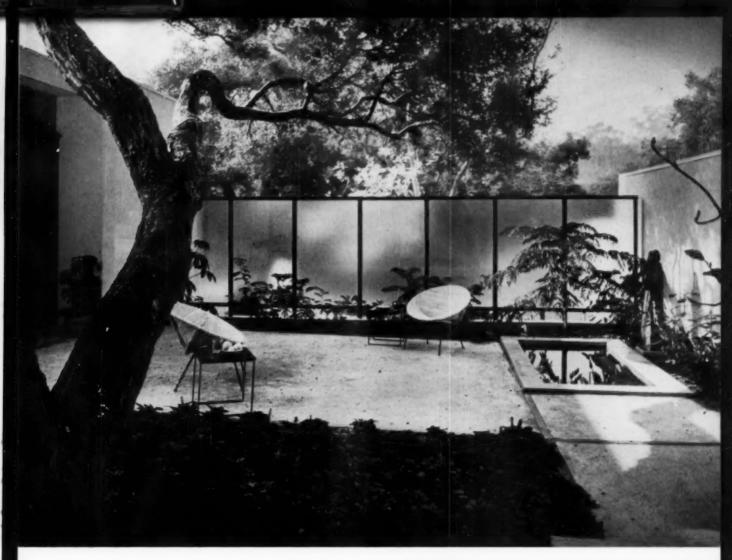
New Orleans, La.

Curtis & Davis, Architects & Engineers

Ulric Meisel photos





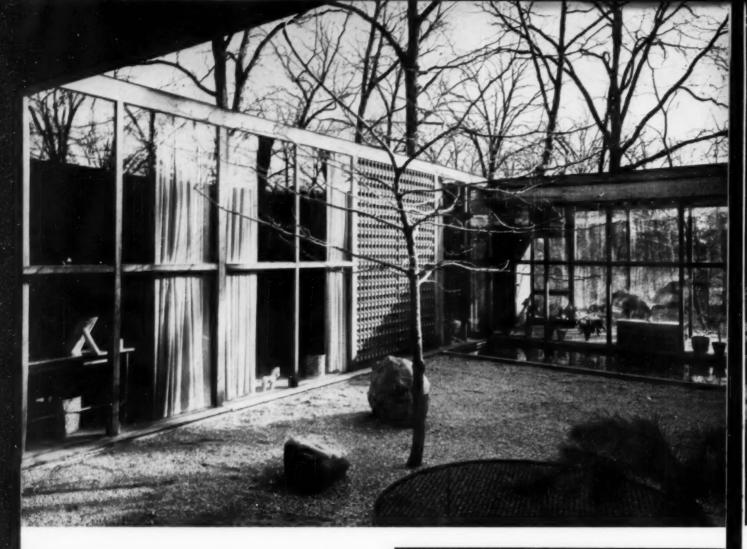


Pacific Palisades, Calif.

A. Quincy Jones & Frederick E. Emmons, Architects

Julius Shulman photos





 $Flossmoor, \, Ill.$

Schweikher and Elting, Architects

Hedrich-Blessing photos

RESIDENTIAL COURTS





New Canaan, Conn.

Philip Johnson, Architect

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Altadena, Calif.

Calvin C. Straub, Designer

Hank Hoag photos

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Honolulu, Hawaii Vladimir Ossipoff, Architect

R. Wenkam photos





Dobbs Ferry, N. Y.

George Cooper Rudolph, Architect

Ben Schnall photos

RESIDENTIAL COURTS



the place of STRUCTURE IN ARCHITECTURE

by Pier Luigi Nervi

It is of the greatest importance, at the present stage of architectural development, to try to clarify the complex relations between the esthetic aspects and the structural and constructional requirements of a building.

It is obvious that engineering and the mental make-up produced by engineering training do not suffice to create architecture. But it is just as obvious that without the techniques of engineering, any architectural conception is as nonexistent as an unwritten poem in the mind of the poet.

Engineering offers an almost unlimited source of static, constructional and functional possibilities, which, even if incapable of architectural expression, may be transformed into expressive architectural realizations when vivified by a sense of composition, harmony of proportion and care of details.

I believe it is possible to establish an analogy between architecture and music which helps clarify the relations between engineering and architecture.

It is true that the most complete musical ensemble with the best instruments and the best players cannot create a musical masterpiece, but it is also true that without the power and the sound complexity of the instruments of a modern orchestra, and without a corresponding capable performance, the most gifted musical genius will appear dumb or at least incapable of expression.

It is easy to imagine the new levels of composition reached by the composers of the past because of the invention and successive improvements of the string instruments, and what new fields could be opened today if new sound producing means were suddenly discovered.

Architecture today finds itself in the same situation in which music was when it abandoned old-fashioned and limited musical instruments for the actual orchestral ensembles.

Steel, reinforced concrete and the structural theories which allow their rational use are the new instruments at the disposal of the architect, who will be able to compose architectural symphonies with them, more complex than any built from the origins of time to date.

The many aspects of the radical changes in construction techniques which have taken place in the last one hundred years can be attributed to the following:

 The birth and development of the theory of structures which allows one to design the greatest variety of structures with sufficient accuracy and ample safety.

2. The abundance of materials with high strength,

, such as steel and concrete, due to fundamental developments in the field of materials.

 The novelty and magnificence of the new architectural themes advanced by our industrial development and our new and fast means of transportation, and required by social progress.

4. The increasing importance of economy.

Perhaps the most important among these points is the first: a widespread knowledge of theory of structure has popularized and democratized the essence of the structural problem and freed the architect from schemes and solutions which could be achieved only by a slow evolutionary process.

It would be quite difficult to reconstruct today the long series of thoughts, observations and unsuccessful trials which guided the builders of the past, and to re-create the mental processes that brought tolthem so many genial intuitive solutions.

Try to compare the height of genius, the power of intuition, the unending meditations, and the courage required by Brunelleschi to conceive and to supervise the construction of the dome of S. Maria del Fiore in Florence with the ease with which we may verify the stability of much more complex structures today. The great freedom of structural invention available to us today will then be quite obvious.

Even in the recent past the discovery of a new structural system was a slow process due to the work of a few builders and of a few exceptionally gifted architects. Today, instead, any modest designer may tackle a structural problem of unprecedented nature and may solve it with relative ease and safety.

At the same time, we cannot help but notice the negative aspects of this democratization of structural knowledge, which is so valuable from a practical standpoint.

The great structures of the past, and among them the Gothic cathedral more than any other, express in their details and in their unity the superior intelligence, the almost miraculous structural sensitivity, the almost unimaginable sum of experience and of executive ability of their creators and builders.

In these masterpieces all the structural and constructional problems are joined in a perfect synthesis. In these realizations it is impossible to separate artistic inspiration from technical ideas: these matured through the intuitions and meditations of exceptional minds and reached the nobility of art.

The facility with which we can now tackle a large number of structural problems and the cold objectivity

This article is based on one of the lectures Nervi gave during his recent tour of American architectural schools.

of the methods of analysis, as compared with intuitive mental processes, have unavoidably lowered the level of our realizations.

I am afraid that humanity will not be able to repeat the technical and architectural miracle of the great Gothic cathedrals.

But forgetting the point I have just made, it is doubtful that the possibility of theoretical analysis of a variety of structural systems has enriched during the last few decades the instruments of our architectural expressions much more than the construction experience and the superior intelligence of generations of builders have done during the last few centuries. Although it may be difficult to establish the reasons for the coinci-



dence, it is important to notice that the birth of theory of structures, fruit of purely mathematical speculations, took place at a time when our industrial development gave us new materials well adapted to daring structural schemes, and at a time when our technical and social progress proposed new structural themes requiring that theoretical knowledge and those materials.

It is difficult to imagine what realizations would have been produced by means of the same materials in a medieval society in which the only themes of structural importance were the church and the castle.

During the last one hundred years all the factors which directly or indirectly influenced construction have been harmoniously directed towards a new architecture which has no real connection with the past.

Nothing is more absurd or sterile than to try to



maintain, artificially, structural schemes and architectural forms of a past which have nothing in common with the present or with the foreseeable future.

On the basis of these considerations, it may be well to ask ourselves what will be the direction of this new architecture.

It is easy to observe that the increasing importance of the structural aspects of the new themes (like longspan bridges, great halls, stadiums, railroads, maritime and air terminals, large factories and large office and storage buildings) require a strict adherence to what I like to call "statical truth" in order to obtain economical and constructionally possible solutions.

It is obvious that any structure of large dimensions is strictly limited by structural requirements, both in its form and in its resisting skeleton.

The freedom to select structural forms, such as the head of a window or the arch of a cloister — the structural elements of the architecture of the past — no longer exists when we are confronted with large dimensions or exceptionally heavy loads. A bridge more than 100 ft in span has already a limited number of solutions; if the span is over 150 ft, the number of possible solutions decreases; and there may be only one or two solutions left when the span is over 300 ft. The profile of an arch-bridge of more than 300 or 400 ft span cannot differ much from the curve of the resultant pressures of the permanent load. Therefore its shape will be very near the shape of a parabola.

Every important piece of construction will therefore have a tendency to express, more and more, the structural scheme which determines it. Actually an honest expression of such a scheme will be architecturally eloquent.

Numerous realizations in other technical fields help us in the creation of a new esthetic sentiment which necessarily is deeply felt in architecture. Airplanes, ships, automobiles and machines cannot help obeying the strictest functional truths and the rigorous laws of statics and dynamics which leave us little room for fantastic creations.

In the eighteenth century a complete freedom of form and of decorative detail allowed the builder of sailing ships and of horse-drawn carriages the creation of beautiful looking vessels and magnificent berlines. These products were in complete esthetic accord with the architecture, the interior decoration and the fashions of the time.

The shapes of our airplanes, our ships and our automobiles are rapidly approaching standard shapes of minimum resistance. In a few years they will have to adhere to theoretical aerodynamic hydrodynamic shapes, whatever the esthetic feelings of their builders.

I believe that such functional results will influence in the long run even those smaller buildings which otherwise could still conserve, because of their limited dimensions, a certain amount of freedom.

It is therefore foreseeable that both because of the direct influence of the structural problems of large structures and because of the direct influence of other technical and mechanical realizations, and finally because of the ever-increasing influence of economic



factors, the entire architecture of the future will be directed towards truth; that is, towards a more truthful style.

This new direction which tomorrow's architecture must inevitably take (unless all the fundamental technical aspects of our new culture should suddenly be



revolutionized) will not lead us necessarily to cold and standard architectural expressions. First of all, the structural forms of great works are in themselves rich and beautiful; but, moreover, we must create architectural expressions of minor importance which are at the same time functionally and economically correct, free of useless and often vulgar decorations, made interesting by harmonious relations of volumes and surfaces and enriched by color and by the refinement of details.

Then there are entire fields of architecture which always will be free from the cold and purely technical requirements of structuralism. For example, the solution of urban problems in the residential sections of our cities can still be quite free and may express in the serene joy of their green areas the need for romanticism and poetry which, I hope, will still be felt by future generations.

After so many changes due to the varying sensibilities and to the social conditions of humanity in the past, we now see the birth of this new "style of truth" which is imposed by the techniques of mechanics and of large structures and which will invade all other fields of human activity.

All over the world, new structures are being built today which more or less consciously express this style of truth. I believe that in the near future this style will flourish consciously everywhere.



Because of this, it is most necessary to point out a danger which menaces the field of architecture during this transitional period and whose gravity is evidenced by numerous architectural realizations of the recent past. I have in mind the danger of fake structuralism; that is, of a structuralism which instead of being born of the natural materialization of structural and con-

struction requirements, originates in a presumed formal structuralism which may not correspond at all to the statical reality of the problem. In other words, I am referring to the danger of structures being generated by the exterior appearance rather than by the inner essence of the statical problem.

The change-over from the traditional construction themes and their solutions to those of today has been too fast and has taken place during an interval of time shorter than the professional life of a designer. The substance of the new structural and architectural possibilities did not have time to mature and to become deeply understood. Hence, some new solutions show an absence of deep conviction, and, because of this, are often inexpressive and anti-architectural. We must denounce the danger of an academic "structural-ism" which may be even more damnable than the old academic "decorativism."

The answer to this question lies in the preparation of the designer and in his understanding of the statical problem. Therefore the problem is essentially an educational one and must be solved by the faculties of architecture.

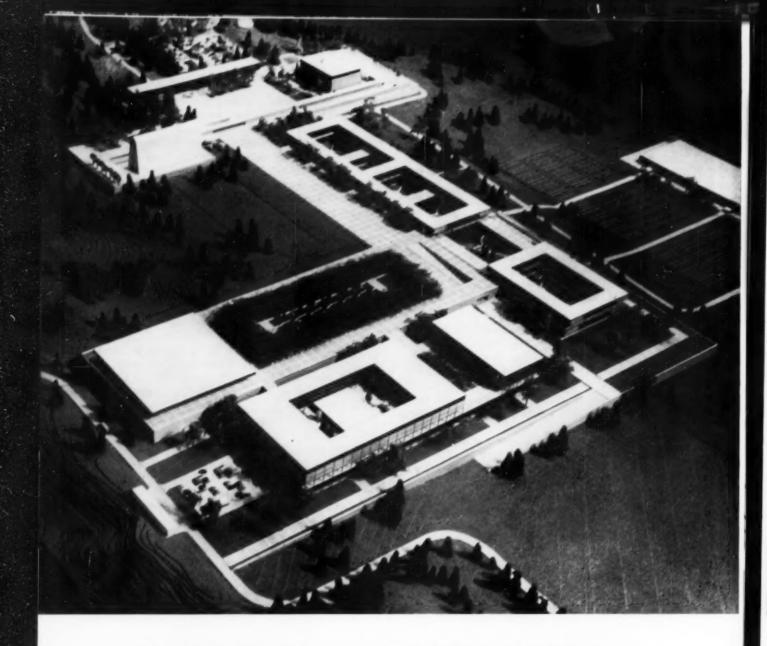
One of the worst mistakes we can make is to assume that the architect may get by with a knowledge of structures which is inferior to the knowledge of a structural engineer. To be able to invent and proportion, even approximately, the new and grandiose structural schemes required by the architectural themes of today, the architect must have an understanding of the struc-



tural concepts which is so deep and well integrated as to transform these concepts, originally based on physical premises, mathematical theorems and experimental data, into a unique synthesis and into an intuitive and spontaneous sensibility.

A complex structure cannot be designed starting from the formulas and mathematical developments of the theory of structures. These formulas and developments will become necessary during the second phase of design in order to proportion the elements of the structure. It is the capacity to feel a structure in an intuitive way, as one feels a ratio of volumes or a color relation, which represents the indispensable basis for structural design.

A serious structural training of the new architect is fundamental for the development of the architecture of tomorrow.



FINAL SCHEMATICS FOR AIR FORCE ACADEMY

Architects-Engineers, Skidmore, Owings & Merrill

What are called "final" plans for the academic area of the Air Force Academy were announced recently by Air Force Secretary Donald A. Quarles. The word "final" means that the general scheme for this area has been accepted, the site plan is set, locations of the several buildings are established, and their overall design. Many details are still being studied, but the schedule calls for first construction contracts being let this summer.

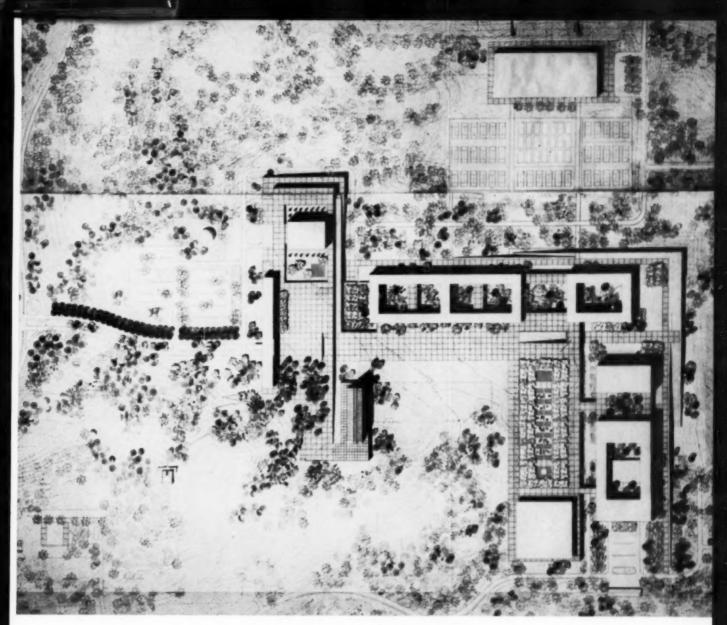
The much-argued chapel has been established as to size and location, but has yet to be redesigned. It has been moved, from earlier schemes, into closer relationship with the academic area, to make it more accessible to cadets' quarters, more closely associated with their daily life.

It is shown in the model photograph above as merely

blocked into the base of the T with the social group, close to the cadets' quarters in the stem of the T. This position, the Secretary pointed out, tends toward a village quality for this part of the campus.

The larger building in the foreground, above, is the main academic building, with library to its right. At the far left is the dining hall; at the far right, the physical education building. Cadets' quarters run down the center of the site for this area.

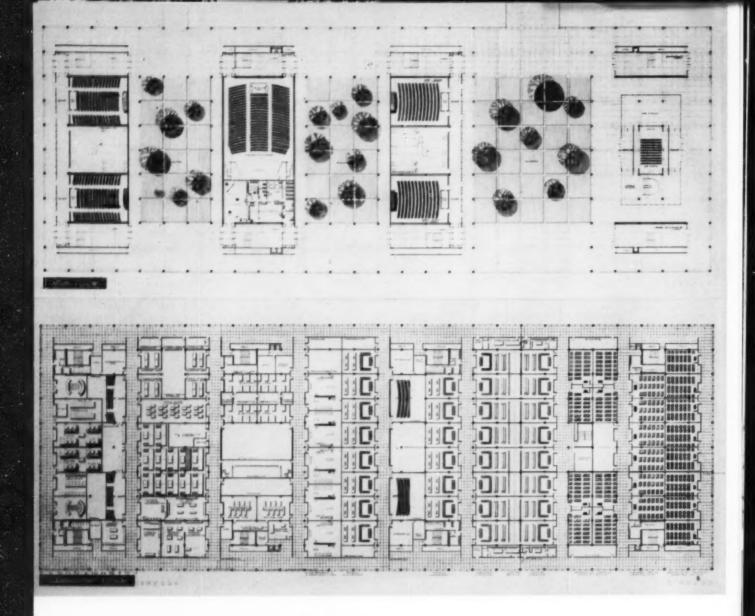
White marble has been chosen as the principal material for the exterior, though glass will still be important. Interior materials and finishes are yet to be selected. Rooms in the cadets' quarters are now being intensively tested in full-scale mock-up rooms being lived in by Air Force personnel who are studying lighting, heating, furnishing, in fact all factors in comfortable living.



Architectural Consultants:

Welton D. Becket Pietro Belluschi Roy F. Larsen Eero Saarinen Dan Kiley (landscaping)



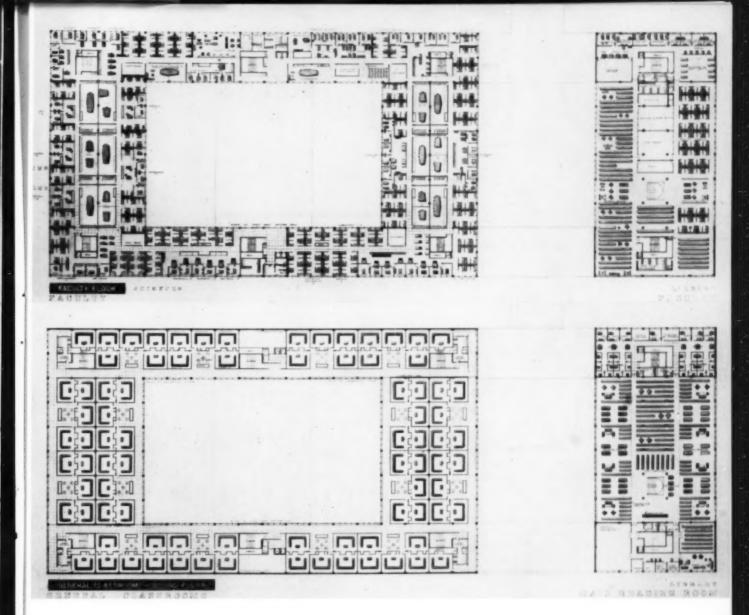


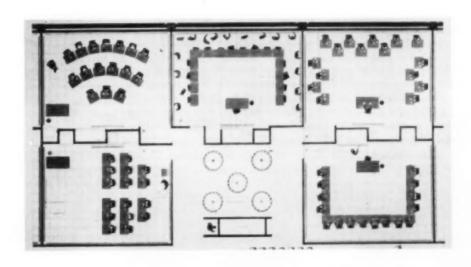
ACADEMIC BUILDING AND LIBRARY

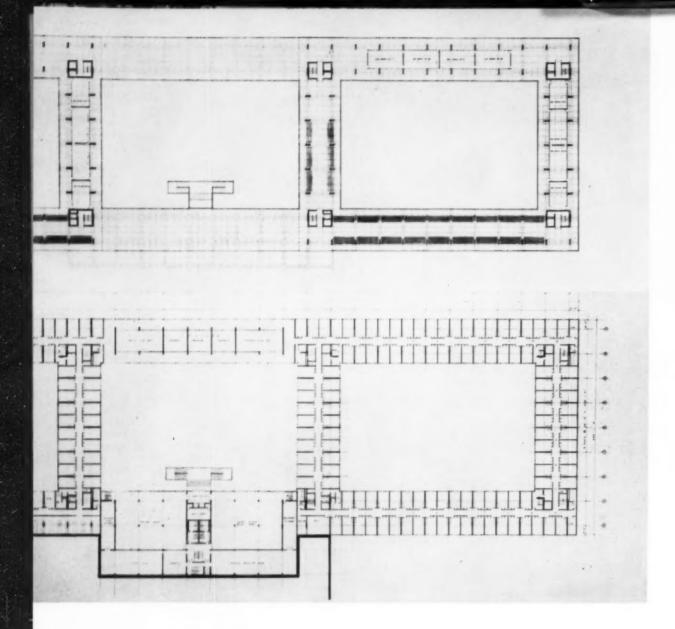
Main academic building has in effect two ground floor levels, with landscaped courts on the upper of the two. Lower of these levels is the laboratory group, with shops, laboratories and drafting rooms. At this level the area is fully utilized, extending under the court between main building and library and on under the library itself. The main floor plan with its enclosed courts comprises a series of auditoriums and demonstration rooms, the largest one seating 1000. Main floor of library houses a small lecture room surrounded by display areas.

Upper floors (opposite page) are the principal classroom and faculty levels. A typical cluster of classrooms is shown in the enlarged plan. The round forms in the open space are coat racks serving the five classrooms in the cluster. The various furniture arrangements show different classroom activities: lower left, film viewing; upper left, television work; center, boardwork; upper right, examinations; lower right, recitation.

Faculty floor houses offices, conference rooms, study carrels and faculty lounge rooms.



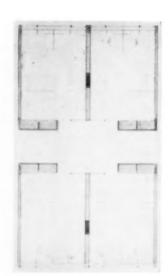




CADETS' QUARTERS

MAIN FLOOR of cadet building is largely open except for a series of dayrooms. Upper floors are a series of identical two-man rooms in three quadrangle
forms. Each room has lavatory but no toilet or bathing facilities. Between
the separate quadrangles are clubrooms, officers' lounges, storerooms, tailor
shops, and so on. Cadets' rooms are being tested for all manner of considerations in actual full-scale mock-up rooms now being lived in.





"ARCHITECTURE FOR THE GOOD LIFE"

Theme of the 88th Annual Convention of the American Institute of Architects, this topic managed to draw the best attendances. Two of the principal addresses are here presented in condensed versions; a third, by Clarence S. Stein, will appear next month.



Herbert Dallinger

1. THE KEYNOTE ADDRESS: ARCHITECTURE FOR THE GOOD LIFE

By John Ely Burchard

Dean of the School of Humanities and Social Studies, Massachusetts Institute of Technology

ONLY A FEW DAYS AGO a group of distinguished Asians came to Cambridge to talk with Americans about almost everything. At one point President Tan of the University of the Philippines asked a devastating question. Were Americans, he inquired, happier today than they were fifty years ago? He asked this because he was seeking guidance as to whether the people of his land would in fact profit by the same acceleration of industrialization as had occurred in our country in this half century. He got, as you might suspect, no consensus of answer, not even a fair definition of what the answerers meant by happiness. But there were people with doubts and this is the important thing for us to remember as we seek the clue to the good life that may be offered by Architecture:

No one denied, for example, that the average man worked less hard now; had many devices at his disposal which were then absent; had more economic security. What some hesitated at was whether a spirit of optimism had not gone out of our people which was inherent in the American Dream of 50 years ago; whether despite our realizations at the level of material comfort, our anticipations were not somehow less than in a time when everyone seemed to be confident of progress and expecting only the best from the future. This confidence did not, they seemed to say, find an adequate replacement in the amusements of the Ed Sullivan show or by the homely victories won on the \$64,000 question or by the products thus purveyed.

Thus if we think that the Greeks had on the whole a good life it will become easier for us to remember what is relevant to the good life and what is irrelevant. Mechanical conveniences become irrelevant if the time they save us and the fatigue they spare us do not result in our spending some of the time and some of the energy on significant matters; in, for example, being greater participants in the democratic political process; or in becoming much better educated, participating for example in the kind of discussions the Greeks adored; or in becoming better participants in making and better viewers of the products of the arts. If the freedoms are not used this way they can have little to do with the good life; we can see some gains in female life in these respects, less in male.

In the same way the mere fact that we can now live longer becomes irrelevant, even adverse to the good life, if the scene is merely to be strewn with the postretirement superannuated. Despite the insurance company exhortations, not every one can live satisfactorily for years on a sunny park bench at \$200 a month. Unless the new longevity is accompanied by some firm understanding in the society of a constructive and dignified role for its aged, it can even be a bane and not a blessing. The Greeks and Romans understood this well enough and assumed that the aged were the wise; but in America of 1956 we assume almost the converse; we do not trust them with important affairs; never in business; almost never in education; and hardly ever even in politics. This is because we confuse the ability to be perpetually busy and on the go with the ability to be productive, which is not at all the same thing; and ceaseless activity, important or not important, is what is demanded of the successful man of our time.

So I am asserting here as flagrantly as I can that the good life is not a matter of good gimmicks or of physical ease; it is a matter of things that uplift the spirit. High averages will not define it. The Arch of the Etoile and the tree-lined streets that come to it and depart are more important to the good life of the poorest Parisian than a tenth of one per cent improvement in his substandard dwelling. I mean this rejection of the high average to apply to all elements of the good life - to the poetic life, to the political life, to the visual life, to the spiritual life. It is a life which occasionally though not too often must reach to ecstasy. Not too often because ecstasy can not be prolonged, as the readers of Dante's Paradiso can discover. But a life without these high points is not the good life. Once you have accepted this definition of the good life it is not hard to imagine

how I am going to define architecture.

Architecture, then, is obviously more than a building; it must be more than a high average of convenience and amenity in the provision of places to sleep, eat and work; it must contain something that lifts up the spirit when it is beheld or experienced; something indeed that lifts up many spirits. It must not be too personal or must, if personal, be open to a multiplicity of uplifting interpretations. That at least must be so in a society which does not have a single unifying theme as we sometimes, for example, imagine the western thirteenth century to have had.

Architecture need not be the creation of an architect. By the same token, and at least by this definition, not everything created by an architect is necessarily architecture. Architecture may be anonymous, it may be regional, or it may be universal in a society; it is likely to be more effective if it is the latter; it may be a dwelling house for an individual but will not usually be so; it can be a great housing project and has occasionally been so. The cards are stacked against this, not because housing projects are not suitable for architecture but rather because the methods by which they are usually produced are not conducive to the production of architecture. But it is most likely to be realized when the building which becomes architecture is one which can serve some large common purpose, a purpose which is commonly understood.

This raises some problems for our times; for there is very little agreement about what is commonly understood or desired. In the history of architecture the buildings which most commonly are recalled have almost always served religion. They have been greatest in Greece and the Middle Ages of Western Europe, Egypt and India, and not in those places like Rome and the United States where almost any religion would do. In the next order we would probably find public buildings, those which served the purposes of government, not only the practical operations of the government but the symbolic representation of the state. These have been effective in such institutions as the fora and tribunes of Rome or in the great regal buildings of the late Bourbons. They have been inspiring in the early days of our own country when the courthouses of the Southern colonies and the village greens of the North combined church and state in a dignified and elevating way; they have been less effective since then because as a people we have faltered between the desire to have symbolic architecture in a democratic society and the intuition that perhaps there should be none, at least none symbolic of the state; and this has been complicated for us by the fact that we have not yet found a way to invent new symbols and have had to fall back on those which were most precisely associated in history not with democracy but with totalitarianism, with imperialism, with colonialism and indeed with all the isms including communism which we instinctively oppose.

I do not mean that we can or should expect many great buildings to emerge from our architecture. This has never happened; and it has hardly happened at all since the fifteenth or sixteenth century; on the level I am now seeking I find nothing yet in the twentieth century; what we may have found are ways to create such inspirations in our own language and by our own methods, if a cause can be found which is worthy of this much effort. Meanwhile we dissipate the opportunity in good average work on matters of good average importance. The mountain peaks are not there.

We do, I suppose, have to ask ourselves whether we are talking about architecture for history or architecture for our own times. I doubt that anyone ever built great architecture or did any other great deed because he was eager to gain the app'ause of history. You realize that some important historians have asserted that the judgment of posterity did control men's acts; in particular that men of evil intentions might be deterred from evil deeds for fear of the scolding they would get from history. This seems dubious doctrine to me and I would expect the same to be so of good deeds.

But there are societies which have left us monuments of their architecture and societies which have not; and the suspicion remains that those which have, have done so because they built durably; in turn the expectation is that they built durably not because they did not know how to build ephemerally but because they expected that things in which they believed had some probability of permanence. The first temple of Apollo at Delphi was of wood and legend follows it with one of feathers and beeswax and one of brass but it ended in stone. It did not end in stone because the Greeks who built it cared only about what their successors would think; but because they expected both to gain current enjoyment and profit from its use and to leave it to a posterity which would enjoy it and for the same reasons.

Now it is pretty evident that our current building materials will not survive for our descendants to study, much less to admire. The glass and the metals will go; if anything remains it will be those buildings of Washington like the Mellon Gallery or the Jefferson or Lincoln Memorials which are least typical of our culture. We are right of course to build buildings that serve our current needs well and not to inhibit this service by demanding an unnecessary permanence. But permanent building and building for contemporary needs are not necessarily antithetical. The basic truth is in the inference from our building and from our architecture, that we do not believe in permanence . . .

The general disorder and squalor of most of our towns west of the Alleghenies and many east of the same range is so discouraging that one likes to find defenses. One of these I am sure, and an important one, is our sense of the transiency, not so much of our life-spans as of the ways we will live within that span. Now that the physical frontier may be gone for Americans some of this urgency of change may disappear but I doubt it; for there is a new frontier whose boundaries can not so easily be stated; and this is the frontier of technological change. The opportunities this offers for real architecture will

be boundless; that they can be much realized in the absence of some convictions of ours that some things anyway are here to stay, I very much doubt.

Closely related to this consciousness of the ephemeral is the fact that Americans are enormous consumers, one might even say scandalous consumers. It is well known that we use such a large quantity of almost any natural resource per capita as compared with that available to peoples in other parts of the world that we are subjects not of admiration but of suspicion and resentment. This suspicion, resentment, envy would exist anyway but it is augmented by our patent waste of these resources; our entire history has been one of a people finding lavish means and destroying them quite as lavishly, whether they were forests, mines, topsoil, or water. The kitchen middens we might leave to posterity should be a cause for acute embarrassment if we cared about the judgment of posterity. You well know that at this very moment there is something resembling a gray market in steel for buildings; but this is not really because of the enormous consumption of the military program though that is bad enough. No, the plain fact is that it is still the automobile industry which is the avid consumer; that this industry is built upon a process of artificial, unnecessary, and in the light of other world standards even immoral obsolescence; it is a little risky to go further because the relation of the automobile industry to the entire prosperity of the country is probably very sensitive but one can hazard the guess that what is good for the automobile industry may not be good for the architecture of America. It is this same spirit of throw-away-before-used-up which leads ultimately as well to the plethora of unsightly automobile dumps which adorn so many highways. We pay a high price for our comfortable transportation; some of it we pay in the steady deterioration of our city traffic, a gradual flow toward the condition of the nether circle of hell, the realm of Cocytus where everything is ice and stationary and silent; but we also pay for it in aesthetic terms. The plain fact is that it seems the average American would rather have a new automobile than a distinguished architecture.

There are two or three other things about the American environment that bear investigating. We rest comfortably with the impression that we are about the most ingenious people in the world and speak of Yankee inventors as though they had existed in every hamlet of early America. This is a kindly myth. Some myths are true. This one may not be. It would be very hard to make a case that even on the scale of pure invention this country had consistently produced more important inventions per capita than others. Indeed we would be likely to find to our shame that this was not so. Clearly we have not, per capita, produced as many creative ideas in science, philosophy, literature or the arts as several other parts of the world. Indeed in many of these areas of the higher artistry we have produced scandalously few. In architecture perhaps our only significant

native innovators up to now have been William Le Baron Jenney, Frank Lloyd Wright, Buckminster Fuller and one other whom I will not name so that each of you can tuck in a name that suits him and be less resentful of this assertion. Of these the most imaginative has hardly built a building at all; the greatest was never really accepted in this country until long after it mattered; and such effects as we have felt from his innovations have largely come to us through the hands of German and Swiss translators and translations.

But we do have a different quality which has stood us in good stead. Once we recognize the general merit of an innovation we are not afraid to go for it hard. So once the meaning of the cavity magnetron got into the American consciousness we produced not only a larger but also a more varied set of radars than the British conceivers might have been expected to do; the atomic bomb emerged in America from European-born concepts; once we really grasped the principles of Le Corbusier and Mies van der Rohe we began to exploit them in profusion and with some, though perhaps not enough, variety.

It is common of course for Europeans to speak of us as a violent people; and we probably like to think of ourselves so. But the fact probably is, as Ruth Benedict has I think suggested, that we are more like Zunis who avoid excess than like the Kwakiutls who shoot the works at a potlatch dinner. This shows itself in the reluctance with which we have adopted the brilliant engineering schemes suggested by the works of Freyssinet or Maillart or Nervi or even of our own Buckminster Fuller and in the enormous restraint we have shown both in the use of sculpture and in the use of texture in buildings; even most of all I suppose in the extent to which we exclude sculpture and painting from our buildings. Restraint is even too kind a word; reluctance and disdain may not be too harsh. For this there are several reasons.

For the moment I wish to speak only of the Zuni aspect. With respect to any of these excesses we ordinarily proclaim in virtuous terms that they are too expensive. It may well be that a Nervi system is better economics in Italy than it is in America but to apply economic determinism to art is the last refuge of the unaesthetic mind. We are incomparably the richest nation in the world. That is what the Athenians were after they moved the Treasury of Delos to Athens in the name of safety; but they were not afraid to spend this wealth on the architectural and sculptural embellishment of Athens; and so it was with the Romans; and so it was even in the poor villages of the Ile de France in the thirteenth century; and even with the prudent English Victorians. But now in the richest land the world has perhaps ever known we say over and over again that we cannot afford these aesthetic extras: the national government cannot afford them; the richest industrial firms cannot afford them; the universities cannot afford them. So our campuses have no sculpture save a few aging and desultory portrait statues of long-gone presi-

dents sitting in armed chairs; and college presidents say that their constituents, that is the donors, big and little, who are already pressed to the breaking point, would resent such extravagances. No doubt they would, but what more pressing job could there be than to educate the donors that this was not extravagance? You learn about art and architecture by being with it and seeing it and not by talking about it; one good contemporary statue on a college campus would have more educative value than many kodachrome slides of Mona Lisa and Moses. Architects have no right to feel virtuous in this matter. Most of you refrain from suggesting such embellishments; when you do you almost never put them in as indispensable; they are rather budgeted separately. Under these circumstances surely no architect is so naive as to believe they will not be the first thing to be cut when the budget runs over as it almost always does. Indeed it is all too often the architect himself who acts as executioner at this point of crisis.

We can not really plead this economic excuse for our omission of art because of course we can afford it. The plain fact is that we do not want it very much. We do not mind the used car dumps very much. We even learn not to see them. But on the positive side which is more important we do not labor very hard to produce this larger and common, non-museum, art environment which has characterized every previous high culture. That is bad enough. It becomes sickening when we talk in hypocritical terms of economic barriers almost as though it were a matter of morality to build a building cheaper. If there is any morality at all in great architecture on the economic side it probably rests in wasting money for elegance, not in saving it by leaving the sculpture out of the final budget. But I am not one who wants to say much about morality and architecture.

However if I may wander for a moment let me say that morality has not much to do with architecture. Ruskin of course was full of morality; architecture was immoral if it served an immoral purpose and so the Colosseum and the Renaissance Palace had to go; it was immoral if it employed cast iron for this was a material which seemed to have required more hand labor than it really did. Viollet le Duc put in his oar when he talked about the morality of structure in the Gothic cathedrals, a morality which was by no means always there and would always be scuttled in favor of the more important thing that the Cathedral must be a reflection in stone of the major principles of the Summa of Aquinas

stated in words.

Now the very modern people who reject most fully the canons of Ruskin can be found also to be talking of morality. It has somehow become honest and natural and organic to display the structure as blatantly as possible and anything else is dishonest and even unnatural. These are harsh words and used inconsistently. There are no animals in nature for example, except a few exoskeletal ones like turtles and lobsters, who betray their skeletons clearly. Often even the musculature is not clear. The structural system of a tree is not apparent to the eye of common sense. The animal which

is thin enough to show its bones, we look upon as an undesirable and ugly animal whether it is an old horse or man-eating tiger. It may well be that from expressions of structure behind hung walls, transparent or not, we have achieved a certain desirable and appealing aesthetic. But let us be content with that for it is a great achievement. Let us not go around calling our predecessors or their work dishonest, any more.

I have painted this picture of American traits in strong colors deliberately to overemphasize the soil on which American architecture has had to grow. That it has grown so well almost in opposition to the soil seems to me a tribute to the persistence of American architects. It is a persistence which was manifested long ago, which began indeed with the efforts of such men as Jefferson and Mills and Thornton, not always sophisticated or even refined in proportion but always with a certain simple effort towards elegance; with the more sophisticated talents of Manigault and Latrobe; which blossomed once in the Greek revival which has left buildings of dignity throughout our landscape, buildings which we need not repeat but which have been little tarnished by time. It appeared in renewed form in the work of men to whom we are ungenerous today, men like Hunt and McKim and Stanford White; in the towering and robust and not quite so derivative Richardson; in the brave poetry of Sullivan fortified by the earthy realism of Adler; in the wide dreams of Burnham made true so long as he was allied with the sensitive Root; in the undoubted and unfettered but not always appreciated talent of our one sure native genius, Frank Lloyd Wright; in the sentimental medieval aspirations of Cram and the more imaginative adaptations of Goodhue; in the original work of men like Maybeck and Gill and the brothers Greene on the West Coast. And all this was not in vain though not all the men were original and though not all the works were suited for the tasks of today or even always for their own day. But Boston would be the meaner without its Public Library and its Trinity Church. In all this there was a surge towards a future, a future which is now with us; a future which was anticipated by the evolution in the work of Raymond Hood: a future which built on the welcome this country finally gave to great visitors, men like Neutra and Mendelsohn and the elder Saarinen and Gropius and Mies van der Rohe. All this was a long time coming. Innovations perhaps continue to pour in more from abroad than from our native soil. Yet in the last analysis if one were required to name the nation in which the highest average of architecture was now being maintained he must and without chauvinism name our own land. In this country architecture, so far as what architects do, has finally come of age. We have a past of which we need not be ashamed and a future which we need not fear; and this has come about despite our will to the transient, our enormous and wasteful consumption, our Puritanical rejection of the opulent, the colorful, even the elegant, our native tendency toward disorder. On all of this we can look with some pride, but also humbly for we have not reached the stars.

2. ARCHITECTURE FOR THE COMPLETE MAN

By John Knox Shear

Editor-in-Chief, Architectural Record



Herbert Ballinger

It is a particular privilege, and one which is much too unique, to share this platform with these three representatives of our sister arts. Since architecture is also styled the mother of the arts we have, to say the least, a curious situation: a mother who is sister to her own children. Perhaps this will serve to indicate, in a small way, the confusion and lack of coordination between our arts. . . .

Since these men are not, of course, complete strangers to what some are calling the arena of limited achievement, they are aware, as you are, that architecture today is much criticized; from within as well as outside the profession.

It has been charged in certain quarters with poverty of imagination; in others with a too paramount preoccupation with being original. Many of our efforts are accused of over-concern with economy; elsewhere we are criticized for wantonly overrunning our budgets. Some find in architecture mere exhibitions of structural ingenuity; others deplore our structural naivete. Here it is called bizarre and there — banal.

. . . It is the nature of architectural criticism today — be it formal or casual — to deal only with portions of the whole; to examine a limited pre-selection of phenomena.

In this the criticism is like the architecture which is itself partial — only partly satisfying the man it is intended to serve. Out of our bountiful technology we have fashioned many wonderful answers to needs never answered before; but to date we have seldom assembled these answers all in one place at one time. . . .

The complete man asks of architecture many things; asks, of course, that his buildings provide him with the means of carrying on his activities . . . asks, too, for the sensations of space and form and their modulation through color in light which were significant to him even as a child: the sensation of caves, of coming into or out of tunnels, of islands, of open glades in the trees, of craters, of high smooth mounds in flat pastures, of bridges, of the space and texture in the floor of a tall pine woods and the light there, and the light and the space under a great tent or in old barns; and the sensation he used to get in crouching under tables or on top of roofs; and even the invigorating spatial sensations of peering through knotholes.

The complete man has known and knows all these and he asks that his architecture afford him something akin to them; not all of them at once, of course, nor all in a short sequence; but enough in any architectural environment that his senses be rewarded as he performs his activities. For he is a creature of senses and demands a rich diet of sensation. And he demands still more, for he is a creature of intellect as well; and because he is he asks his architecture for more than usefulness and for more than sensation.

The complete man asks also that his architecture have meaning; that all its parts speak to him and to others. He asks that his buildings say where they are — in space and in time, and he asks that they speak of their purpose and abilities and the means of their forming. . . .

The complete man, then, asks for a rich assortment of utility, of sensation, and of meaning in his architecture. He is aware, of course, that they are interdependent and as such, each has the power of strengthening the effect of the others, and that taken together they constitute the whole architecture which he needs but which he does not have. The architecture which has the ability to speak to his spirit. In its stead he has today some brilliant and beautiful parts with a necessarily partial ability to satisfy the whole man. . . .

When we are making an intellectual point we seem to have nothing left over with which to stimulate sensation or even afford utility. And when we are being utilitarian there is so often so little energy left for satisfying the senses and the mind and seemingly little conviction that these satisfactions are necessary. We work with shifting enthusiasms, with fragmental fascinations. . . .

With all our technology and with all our talents how can our failure to satisfy man's total architectural needs be explained? The explanation would not be simple. Certainly it would have to point to the fact that we haven't had for very long our present materials and techniques. Certainly, too, some part of the explanation would lie in our extraordinarily complex procedures in designing and erecting buildings. Procedures made necessary in part by the enormous speed with which we have had to match the immigration and westward expansion and industrial growth of our past one hundred years. A century of the most violent evolution and one in which architecture was deeply affected. For out of the turmoil of reaction and counter-reaction too many of our architects have inherited the polar isolations and the extreme attitudes which were necessarily called into being during the revolt against eclecticism. We have grown up under the influence of the leaders of that revolt. Our heroes came to fame with deliberately exaggerated manifestoes and with exaggerated buildings to illustrate those manifestoes. But we have come to love their over-simplified, emphatic forms not, unfortunately, for what they meant in the endless evolution of architectural form, but for the forms themselves. And these forms suited our economy, and could be easily reproduced, and in reproducing them we could directly identify ourselves with our heroes.

We have inherited both their forms and their attitudes and without having added appreciably, as they did, to either the facts or the philosophy of building, we find ourselves still defending the same polar points of view; being against many things with more intensity than we are for anything . . . belittling each other's work; making distinctions in mediocracy; fretful in our efforts to establish an identifiable style - on which, if fortune smiles, some magazine will bestow a name (nothing is genuine without a name.) Bickering about the proper roles of history, and of the region, and of function. And in our vain preoccupation neglecting the man for whom we are building; neglecting that thoughtful and thorough study of his needs and his attitudes which reveal the proper point of departure and the proper goals of architecture.

That study will reveal at the outset that man is a creature of opposites; that he is attracted to many apparently disparate phenomena; that he doesn't feel he has to be against yesterday in order to be for today—doesn't have to turn his back on history in order to look forward; that the genius of a particular place and its people is still a desirable source of influence on form even in a day when he readily acknowledges the interdependence and cross influences of all places and all people, that function has a more inclusive meaning than we have been ascribing to it. . . .

It is in the recognition and understanding and transcendent resolution of man's basically dual nature and the dual interests it manifests that a wholly satisfying architecture can come into being. Ignoring man and his polarized nature and turning our backs on half the factors which should generate form makes architecture easier but does not make it better; does not make it whole. . . .

But really knowing man is enormously difficult and becoming daily more so as science broadens our collective knowledge of him while our individual capacity for understanding and acting does not much increase.

The total of what we should know about man—which is knowing ourselves, after all—is staggering. We must surely recognize our need—as architects—for help. We need all the help we can get from the fields of science and from the humanities. But where they have not gone or cannot yet go we must depend on intuition; on our own and on that of any who can help us; on the intuition of the truly gifted men from the related arts, who, as sensitive artists, are responsive to the emotions of the complete man and whose natural domain is spatial organization and spatial expression.

This sort of collaboration demands a kind of mutual

respect and awareness of common interests and sympathetic understanding which very few architects and their fellow artists possess today.

On the contrary, many architects either mistrust or feel superior to the painter and the sculptor and even the landscape architect. . . . Among architects there are few Michelangelos but many Michelangelo complexes. . . .

But our failure to get a rewarding collaboration cannot be traced to the architect alone. Our fellow artists have too often been equally unyielding. Principally obstructive to collaborative achievement is their very evident concern that their contributions to a building be readily identifiable in the currently conventional terms of their particular art forms. They want to be displayed. . . . Too often their efforts produce simply artistic objects in a building rather than making art of the building. Architects, compliant, seem to wish for little more. . . .

With architects reluctant to seek advice and reluctant to relinquish even the slightest prerogative and with their fellow artists insistent on a limited assortment of conventionally identifiable objects it appears we will not soon get the kind of resonance we need between these artists before a really transcendent architecture can be achieved.

For the architect cannot do it alone. He must trade in the visual and spatial expression of his own emotions. But the number and the range and the quality and the significance of his emotions are directly dependent on his responsiveness to the emotions of others. . . . Rich invention and the careful, precise forming of a building have always been achieved only when the emotional stimuli were abundant and pressing and recognized. The architect can broaden his recognition of stimuli only if he is willing to open himself to the emotions of others. The architect who draws only on himself soon draws from a dry well. . . .

The search for significant causes — for the forces which should determine our forms — is generally beyond the individual architect's largest capacities. We are asked to do so much and have so little time in which to do it, and we have blind spots, and preoccupations and a natural quota of sloth. And all these obscure the search for the stimuli to significant form. And on top of all this, our vanity, which is not as necessary as it is a frequent, attribute of ability, prevents our seeking help from the very men — these fellow artists — whose sensitivity to emotion and sensitivity to form can help us stretch our vocabularies to the point where once again we may speak to people and be understood.

But if, in some future, this collaboration ever develops in something more than isolated instances, we may be nearly sure of this: the whole fabric of our buildings and their spaces will be affected — their profiles, their lighting, their approaches, their changes of direction, their sequence of vistas, their textures and colors. The whole of architecture . . . an arena of achievement which should be limited only by man's still unfulfilled capacity to enjoy organized space.

ROCKEFELLER GENTER BUILDINGS, New York Reinhard & Helmeister, Certest, Harrison & Mosfilurop, Need & Facilitiess

LEVER HOUSE, New York Skidmore, Owings & Morriti

H. H. Stehardson

PHILADELPHIA SAVINGS FUND SOCIETY
BUILDING, Philadelphia

GENERAL MOTORS TECHNICAL CENTER, Descrite Searings & Searings

LAKE SHORE DRIVE APARTMENTS, Chicago

S. C. JOHNSON & SON, INC., ADMIN. BLDG., Racing Frank Libral Wright

MONADHOCK BLOCK, Chienge Surnham & Rest

DAILY NEWS BUILDING, New York Road & Howells

TVA BORRIS DAM & POWER HOUSE, Tonnessen

MOSTON PUBLIC LIBRARY, Section McKim, Mond & White

STOCK PAVILION, Releigh Newtott & Dettrict

CHRISTIAN SCIENCE CHURCH, Berbeley Bernard Maybeak

WOOLWORTH BUILDING, New York Case Giffert

Searing & Searing, Illinois Searing & Searing, with Pertine, Wheeler & Will

SAMUFACTURERS TRUST BUILDING, New York Saidmore, Owings & Merrill

WHITY CHURCH, Oat Park Front Lloyd Wright

HEBRASKA STATE CAPITOL, Lincoln Surtram G. Goodhus

S. C. JOHNSON & SON, INC.; LABORATORY, Resind Frank Lleyd Wright

Wellace K. Harrison & Consultants

LIMCOLN MEMORIAL, Woshington Neary Oscan

Gore Searmen
EQUITABLE BUILDING, Persions

ALLEGHENY COUNTY BUILDINGS, PREMIUM

Makim, Mend & White

CHAMBROOK SCHOOLS, Michigan Gild Scartism

MINERALD & METALS RESEARCH BLDG., I.L.T., Onting Miss van der Rohe

ALCOA BUILDING, Processia Harrison & Abramovits

SOUSCUES OF MODERN ART, New York Goodwin & Stone

PERMEVLYANIA STATION, New York McKim, Mead & White

REPERIMENTAL SCHOOL, Les Angeles Richard Houtro

Albert Kelle 100 MEMORIAL DRIVE APARTMENTS, Co

Kennedy, Kech, Delilers, Repsen & Brown
CENTRAL LUTHERAM CHURCH, Persiend
Plate Sellwahl

HOUSES

F. C. ROBIE, Chicago Front Liegal Wright

E. J. KAUFMANN, Pennsylvan Frank Llayd Wright

TALIESIN WEST, Arisons Front Lloyd Wright

MENRY VILLARD, Reer York

WATTS SHERMAN, Neurpor H. H. Richardson

Front Lloyd Wright
W. W. WILLITTS, Illinois

W. W. WELLITTS, Illinois Frank Lloyd Wright

D. R. GAMBLE, Pasadono Greene and Greene

PHILIP JOHNSON, Now Conson Philip Johnson

WALKER GUEST HOUSE, Florido Paul Rudolph

ELLEN SCRIPPS, Lo Jotto Irving GIII

WESTON HAVENS, Serboley Planwell Hemilton Harris

Michael Houte

THE PARTICULATION OF PARTICULAR STATES

ONE HUNDRED YEARS OF SIGNIFICANT BUILDING

2: ADMINISTRATION AND RESEARCH BUILDINGS

Of the fifty buildings and building groups nominated by a panel of fifty architects and scholars as the most significant in the past 100 years of architecture in America, the four shown here (constituting the second installment of a 12-month series which began in the June 1956 issue with a presentation of the eleven office buildings most frequently nominated) are relatively recent accomplishments and as such are very much within the awareness of even our youngest students.

These have been published widely, appraised enthusiastically and visited out of all proportion to their accessibility. The site and the space, the fabric and the finish, of each of these buildings is actually known to a multitude of American and foreign architects and students in a way beyond all ability of photographs to inform.

Few will be surprised at their selection and perhaps fewer yet will be in serious disagreement. Certain it is that all who know them carry still the recollection of the emotions these buildings first induced. For this is architecture with many important things to say and with the ability to address and to stimulate the senses and the mind as well.

The formulation and expression in language of emotional reactions to such complex stimuli is always difficult and grows more so when restricted to the few words allowed to the panel members who below and in the following pages have each indicated something of his reaction to one or another of these significant buildings.

Of the General Motors Technical Center, Architect Max Abramovitz writes:

"The General Motors Group is one of the great 20th Century compositions born out of the sense of civic responsibility of a great corporation.

"Eero Saarinen's grasp of his opportunity and his masterly solution in plan, form, color and detail rightly permit this group to be called the Industrial "Versailles" of this period. Architecturally it will be a great landmark, and should, I hope, encourage other institutions. Rarely does a designer succeed in creating a structure that has a sense of belonging to the times, a sense of rhythm and counterpoint that is in tune with the personality of industry and the spirit of today." General Motors Technical Center, Detroit, 1951–1956, Eero Saarinen & Associates. (Sixth)

"The General Motors Technical Center is the first and best complete collaboration of industry, architects and landscape architect. It is a truly American melding of the best from Europe, with native American feeling; a much-needed demonstration that these sources can be improved for our consumption. Withal it is a magnificent example of architecture which will be a yardstick for future work of this type. To my mind it is a milestone of the stature of the Barcelona Pavilion and a healthy use of Mies' influence too rarely seen. Though it is an unrealized dream to have such an opportunity myself, I am glad to have lived to see it."

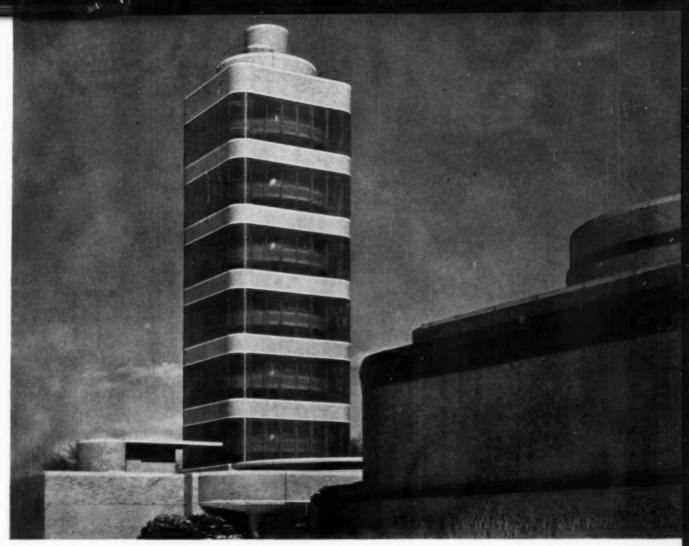
John Dinuciddie

"The General Motors Technical Center is a magnificent architectural statement of the power and glory of American industry — far more impressive than any skyscraper set down by itself in an urban jungle. Here in a vast controlled environment created out of flat and empty farmland, precisely and beautifully interrelated buildings are served by appropriate routes for motor and pedestrian traffic, and linked to outdoor spaces for pools, gardens, parking and service areas. This overall integration successfully extends, indoors and out, to structure, materials, furniture, landscaping, equipment that is sculpture and sculpture that is equipment. This huge project sums up all the current aims and current progress of American architecture — its technical achievements, its re-integration of all the building arts and its ability to handle both single buildings and building groups. As such, it is a milestone to be recognized and remembered."

Morris Ketchum, Jr.



© Ezra Staller



Photographic Dept., S. C. Johnson & Son, Inc.

S. C. Johnson & Son, Inc. Buildings, Racine, 1937–39; 1949, Frank Lloyd Wright, Administration. (Eighth) Laboratory. (Tied for fourteenth)

"It is not easy to be coldly critical of any work by Frank Lloyd Wright. So much praise has been laid at this man's feet that one wishes it were possible to look upon this work again with a simple, unbiased mind. One might then ask, 'Is this a mere tour-de-force, or a romantic interpretation of what a factory in our time and country could be? Is it an example of the American power of advertising, or a pioneering effort to create the poetic symbols of our industrial age?' Yet one feels that none of these questions need be answered. Frank Lloyd Wright has shown here how to soar above the practical demands of his clients, above the thinking habits of his age, above the nagging compromises of mediocrities. These buildings shine in uncompromising purity and deliver all that the spirit may wish. To see them in the flesh is to forgive their author for not being what our rational age demands an architect to be - a forgiveness reserved only for the great."

Pietro Belluschi

"These may be considered more important and prescient even than Frank Lloyd Wright's most famous residences. Here are

six directions in which they surpass present standards. (1) Independent centrally-structured units, gracefully linked, permit great liberty in planning each unit according to need. Where used, repeated bays are grouped centrally, not in boring series either horizontally or vertically. (2) Centrally-structured units readily express total enclosed volumes, achieving grand scale regardless of size, impossible to flat by-the-yard façades, whose corners also do not compare in strength, eloquence or diversity with those shown here. (3) Different masses are not merely picturesque, they identify functions of the buildings to visitors and workers. (4) Opening large, low structure directly to the sky allows sealed, controlled clerical environment to incorporate invigorating variety of natural light without eye-level distraction. (5) Dispersed, diversified parking humanizes work-center relationship to transportation, allows expressive architectural modulations. (6) Enclosed courts, terraces and surrounds are planted, not to prettify; they lift monotonous terrain typical of industrial sites into integral participation, enriching architecture." Edgar Kaufmann

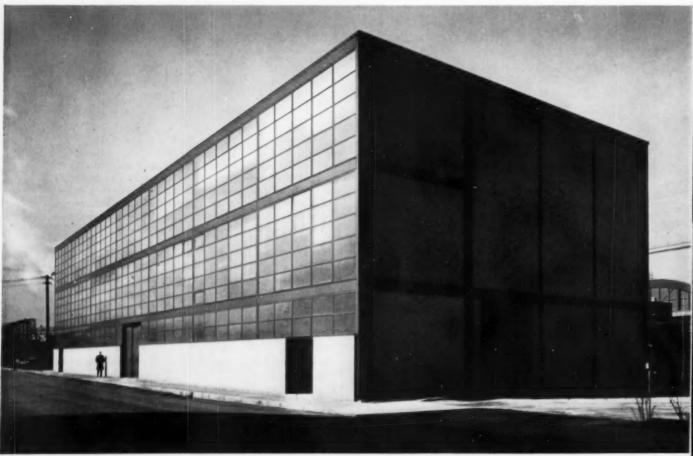
Minerals & Metals Research Building, I.I.T., Chicago, 1942–43, Mies van der Rohe. (Tied for seventeenth)

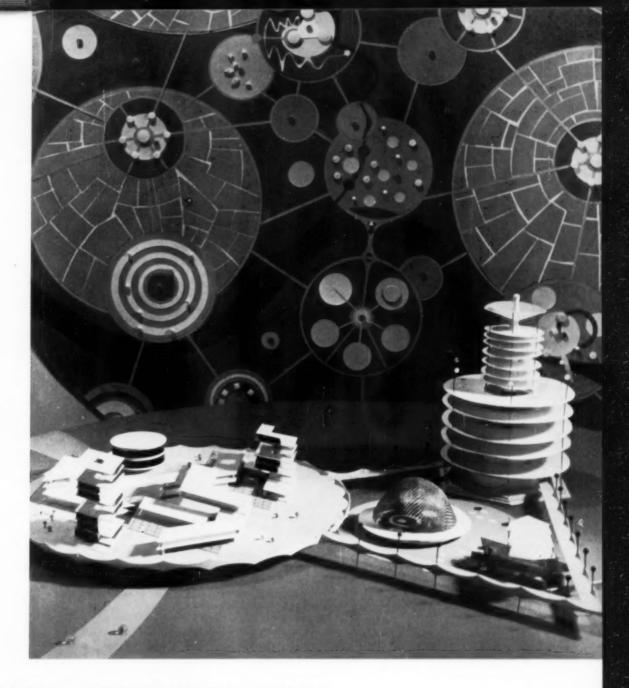
"Of all the many buildings on the campus of I.I.T., this, Mies' first pure statement of steel skeleton with brick and glass infill, has had the most influence; the first building off the drawing board in modern architecture which expressed the logic, now become so familiar, of a trabeated system seen from inside and outside at once, of the infill of glass and brick seen from both inside and out. Not since the Gothic has there been such clarity of expression. In subsequent buildings on the campus, Mies' expression has become richer and richer until this spring the Architecture Building, the greatest by far of the group, is now complete. Mies' logic has now become part of the grammar of American architecture." Philip Johnson

"The architecture of this building is compounded simply of skeleton and casing; of bones and flesh. It has an unexaggerated simplicity; it is terse and honest. Mies van der Rohe is not an architect with frequent changes of mood or manner. He has no assortment of design tricks. In glancing over his accomplished work for a period of thirty years, we discover, as here, a consistent and continuous structural frankness, with use made of modern materials. An early instance of his awareness that steel and concrete framework has a structural dignity and esthetic merit, is shown in his 1928 proposal for the remodeling of Alexanderplatz, Berlin, where a skeleton pattern of concrete columns and lintels dominate exterior design. He has held to the same formula ever since. In doing this he carried on the tradition of Auguste Perret, of France. It has been said that no architect of our day has exercised so wide an influence on architectural education and on American architecture, as has Mies van der Rohe."

A. Laurence Kocher







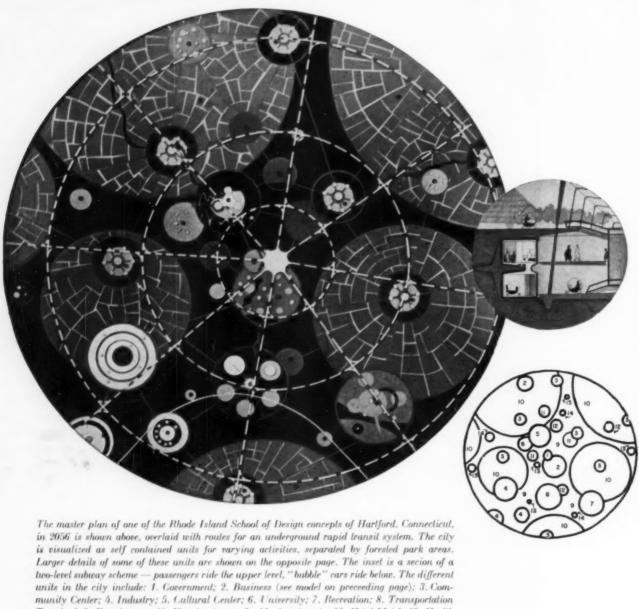
HARTFORD, CONNECTICUT, IN 2056

Rhode Island School of Design broadens its educational horizon by having students replan a city for a hundred years hence

What should our cities be like in a hundred years, and how can their growth, change and development be visualized and planned? This stimulating problem was presented to the senior students in the Division of Architecture at the Rhode Island School of Design this last school year. The plans and models shown here are some of the intriguing results.

The city of Hartford, Connecticut, was selected as the site for the problem because of readily available data which would allow a reasonable predictability on future change. Architecture and Landscape Architecture students were divided into seven teams to create independent solutions. Despite the originality, each solution is soundly based on existing Hartford and its expected growth patterns.

Perhaps the most important aspect of the problem, though, is its use as an educational device to foster a better analysis and understanding of the basic needs of



Terminal; 9. Forest areas; 10. Housing (general); 11. Apartments; 12. Hotel-Motel; 13. Health Center: 14. Private Institutions: 15. Sensation Center

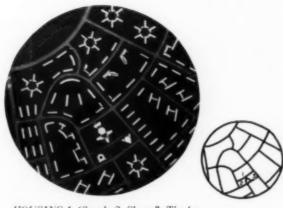
HARTFORD, CONNECTICUT, IN 2056

man, and the creation of a more suitable environment. To aid this goal, many types of specialists trained in professions concerned with the human being were called in to lecture - sociologists, biologists, doctors, economists and psychologists.

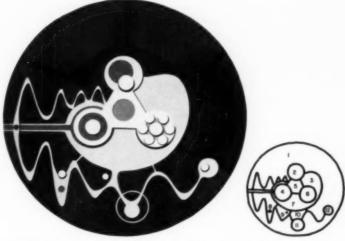
With our increase in professional specialization, it is extremely encouraging to see far-sighted educators reinforce training in a single technique by a program designed to relate diverse specialties.

This is especially true in architectural education. Often, in the enthusiasm of designing an individual building, the effect of such a unit on the total environment is ignored. This limited view can be carried through into actual architectural practice - with results that we all know. And the fact that planning deals with emotions and social habits, as well as physical needs is sometimes sadly neglected.

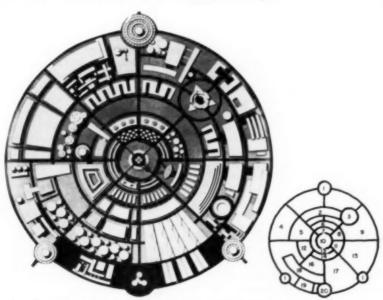
Granted that a single student problem will not solve



HOUSING 1. Church; 2. Shop; 3. Theater



CULTURAL CENTER 1. Apartments; 2. Amphilhealer, Civic Center; 3. Baloon Landing; 4. Museum; 5. Terrace, parking under; 6. Theater, Dinng; 7. Terrace; 8. Institute for living; 9. Dining; 10. Observatory; 11. Zoo: 12. Dining, Light Opera



INDUSTRY 1. Helioport; 2. Dry Storage; 3. Employee Center; 4. Heavy Industry; 5. Communications and Materials; 6. Chemistry; 7. Sales Offices; 8. Physics; 9. Light and Local Industry; 10. Exhibition; 11. Union Headquarters; 12. Testing; 13. Professional Offices; 14. Electronics; 15. Transportation; 16. Manufacture; 17. Food Processes; 18. Liquid Storage; 19. Power; 20. Restaurant







Top: Government center includes capitol building, law courts, state office buildings—all on raised terrace overlooking river. Center: Recreation Center, with various spectator sport stadia, amusement park, Bottom: Industrial Exhibition Building, the hub of the industrial center (below left) to display objects made in the area, coupled with a restaurant









Above: another student team evolved a city idea, also based on activity units, with a somewhat more monumental approach. The model shows the insurance and business center, with an industrial and labor relations center across the river at the right. The scheme places tall office buildings in a setting of great terraces, pools and esplanades. In all the problems, activity areas are located in approximately the same position as in the present-day city of Hartford

Left: these three skelches show a portion of a scheme with a slightly stronger ring of familiarity. They cover the business area, which includes large insurance buildings, department stores, small shops and restaurants. But buildings of any height are widely spaced, and all are carefully linked by separated routes for pedestrian, passenger car and service traffic. The result, to the pedestrian, is a pleasant, plaza-like atmosphere, free of all automotive traffic

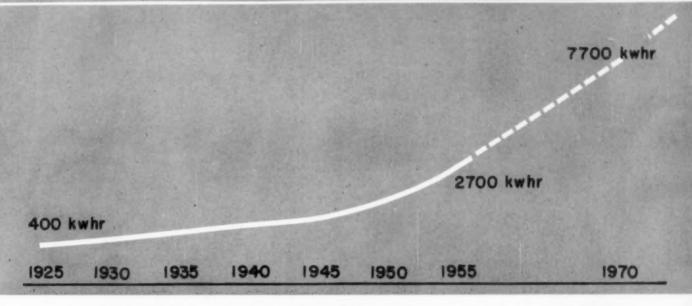
HARTFORD, CONNECTICUT, IN 2056

all the myriad stumbling blocks involved in ultimately creating an "ideal" environment, it is nevertheless a solid step in the right direction.

The students came up with some quite challenging ideas. To relate city areas more closely to the individual, various "nuclei" separated by forested areas were conceived. Each nuclei being, in effect, a small complete village. Larger commercial, industrial and recreational areas would be centers to themselves. Such nuclei,

linked by integrated and efficient transportation systems, were also conceived as permitting the expansion of city limits without breaking down the city plan as it continues to grow. Slums would have less chance of developing.

The entire program was a very broadened approach toward one of its stated aims . . . that "a city should be a tool serving man — a functional, pleasurable experience for its residents."



ELECTRICAL DISTRIBUTION IN THE HOME

It continues to add more and more to the "comfort factor" of a house, and at only a fraction of the total building cost — if it's planned carefully!

If the architects of the first few decades of the 1900's could have predicted the extent to which electricity would be used in the home, many of the expensive rewiring jobs being done today would not be necessary. Architects of today's houses know better, though, and they incorporate this knowledge in their house designs by planning an adequate wiring system not only for today but also for tomorrow.

The average residential electrical customer of 1970 will use three times as much electric current as he does today! As shown in the graph above, his annual electric consumption has jumped, in the thirty years since 1925, from 400 to over 2700 kilowatt-hours—and predictions show that it will catapult to 7700 kilowatt-hours by 1970! But these figures are just for the average homeowner. The consumption factor of the "above-average" customer—and into this category fall a majority of the architect's clients—may reach an annual level of 30,000 kwhr before 1970!

The "degree" of electrical living that can be planned into a house is limited by two factors. First is the actual number of electrical appliances and other electricity-consuming elements which can be designed into the house. This factor is responsible for the phenomenal rise in electrical consumption and for the predicted increase for the future, especially in the categories of appliances, lighting and sound.

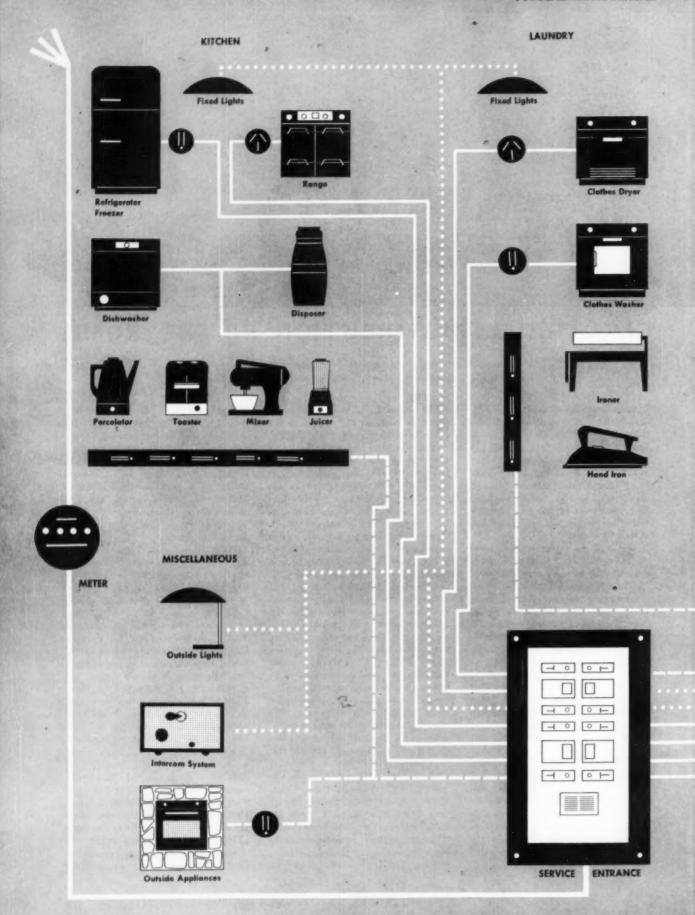
The second factor is the amount of electricity that can be supplied to the elements which make possible this degree of electrical living. And here is where pre-planning of the wiring system becomes so obviously essential. The larger the service conductors to the house, the more current will flow into the house, and therefore the more electrical elements can be planned into it. Power is delivered to a house, as can be seen in the chart on the next two pages, from the main utility circuit through three power lines. These lines run through a metering device and thence to the actual service entrance equipment, which consists of either circuit breakers or a switch and fuses to regulate the amount of current flowing through the lines. The service entrance shown on the chart is simply a representation and does not attempt to be consistent with the circuits indicated.

Service entrance conductors and equipment should be selected to serve adequately and safely all present and anticipated loads. The standard entrance is a three-wire, single-phase, 120/240-volt line which will deliver a maximum amount of current depending on the size and capacity specified by the architect. The maximum power supplied could vary from 24,000 (100 amperes times 240 volts) to 48,000 watts (200 times 240).

Service entrance equipment can be located in almost any part of the house. Although it used to be strictly basement equipment, today's standardized cabinets are styled so that they can be installed in the kitchen, laundry, utility room or front hall, where they are more accessible. Almost any circuit arrangement can be assembled from the components of these standardized cabinets. It is well to provide for a panel in which there are some extra circuits available which can be activated when the need for them arises.

From the load center, branch circuits snake through the house servicing its multitude of electrical elements. More pressure is required to force current into some elements than is necessary for others - and here the advantages of a three-wire service are evident, From it can be drawn both low voltages for standard components such as lights, clocks, radios, etc., and higher voltages for such units as electric ranges, air conditioners, etc. Actually the three wires include only two live lines, and the third is a ground line. When connections are made across the two live lines, the full 240 volts are supplied. However, when connection is made across one live line and ground, only 120 volts are available. Voltage is never absolutely uniform. It has some variation, and so there is some interchange of ratings. For example, reference is made in some cases to a voltage of 115/230 and in other cases to 120/240.

An adequate number of branch circuits planned into the house saves



LIVING-DINING





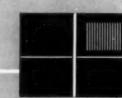






UTILITY ROOM





Air Conditioner



CIRCUIT KEY

BEDROOMS











BATHROOMS









money for the homeowner in the long run because he thus avoids running the risk of overloading fewer circuits. The more appliances there are on a line or, for that matter, the longer the line the more "voltage drop" there is in the line. Voltage drop is actually loss of the energy which supplies the appliances operating on the circuit. It is much like too many faucets drawing water from one pipe, in which case there is a lowering of the pressure in the pipe. As an example of the seriousness of voltage drop, with only a 10 per cent reduction in voltage a 100-watt bulb gives less light than a 75-watt bulb operating at normal voltage.

It will be noted on the diagram on the preceding pages that there are three major types of branch circuits:

General Purpose Circuits serve small plug-in appliances plus lighting and operate on 120 volts.

Small Appliance Circuits serve convenience outlets in the kitchen, laundry, dining area, utility room and other areas where appliances are used frequently. They can operate on 120 volts.

Fixed Appliance Circuits serve only one appliance, or two at the most, because the load requirements and operating characteristics of most fixed appliances are such that only one line can supply enough power to service them without interfering with the home's continuing electrical activity. If a fixed appliance with a rating of over 1000 watts were placed on a small appliance circuit, there would always be the chance that the high-rated appliance might be turned on at some time when enough of the other appliances were operating that the circuit would be overloaded, thus either lowering the efficiency of the line or causing the fuse or circuit breaker to open and so stop the flow of current.

Most branch circuits can use No. 12 wire, although on some fixed appliance circuits it may be necessary to use No. 10 or No. 6 wire. Each wire size has an ampere rating, listed below, and so it is easy to determine what size should be used. Each circuit should be protected with a fuse or circuit breaker with the same rating.

Wire Size	Ampere Rating
14	15
12	20
10	30
8	40
6	55
4	70
2	95

Nos. 1, 0 and 00 have even higher ratings. The standard branch circuit using

No. 12 wire, with a 20-amp rating and 120 volts applied, has a capacity of 2400 watts. The same circuit using No. 14 wire wou'd have a capacity of only 1800 watts, and the wiring cost would be very little less.

In planning the branch circuits of any house, there are five major characteristics which should be considered:

1. Accessibility. Convenience outlets should be just that - convenient. They should be provided in sufficient quantity and at convenient enough locations so that any portable electrical element can be plugged in and used wherever desired without the need for extension cords. It has been recommended that plug receptacles be so placed that no point along the floor line in any usable wall space is more than 6 ft from an outlet in that space. This recommendation is modified even further for kitchens to provision for one outlet in every 4 ft of work surface, with a minimum of one at each work surface. This does not include outlets for fixed appliances, which should be placed in the location at which the appliance is to be used.

2. Capacity. There should be ample provision for branch circuits so that all parts of the system can deliver rated voltage at full-load current. Overloads on branch circuits are unnecessary, especially today, when additional circuit capacity can be designed into the system so easily. As a matter of fact, each circuit should be planned so that it has a capacity of at least 20 per cent more than its maximum load.

Future branch circuit capacity should also be provided in the initial design of a house. With the inevitability of increased electrical load, there should not have to be any worry that future load will be an undue burden to the house. When provision is made in the initial design for inevitable "expansions" of the house electrical needs, there is a minimum expenditure involved in adding the branch circuits when the time comes.

3. Isolation. As mentioned before, separate circuits are needed for those appliances and pieces of equipment which operate automatically and shouldn't be subject to the overloads of other parts of the system. Even if the appliance is not automatic or motor-driven, it should have a separate circuit if it is rated at 1.65 kw or more.

4. Safety. Every circuit should be planned for maximum safety. Properly rated circuit protective devices should be installed to check any hazard to the line. A safety factor built into the line makes it possible for additional appliances to be added without danger of overloading.

5. Control. This is one of the most important features of an electrical system which the architect can design. Control means convenience, and this should be offered to every house client. In many cases it also means safety. This is particularly true in positioning light switches so that the homeowner never has to walk through a dark area before illuminating it.

Control is applicable to thermostats, timers and other electrical devices, of course — but it has most pertinence to lighting, since most switches govern lights. Wall switches are usually mounted at a height of about 48 in. above the floor line. Enough control of these lights should be built in so that maximum operating convenience is attained. Further control is possible with remote control systems, by which lights and appliances all over the house can be operated from a distance.

Houses should be wired, of course, in conformance with the National Electrical Code. However, wiring plans should not stop there. The Code contains just the barest minimum standards, designed to keep a house safe from the hazards of electrical shock and fire. It is a standard for safety only and cannot be considered as a design specification for an adequately wired house. In planning for adequate wiring, an important consideration should be that wire itself costs very little. A substantial part of the wiring budget is the actual installation of the wire, not the wire itself. Therefore, it is most economical to plan for the future needs of the occupants and to provide in the initial design as many branch circuits and "spare" circuits as are feasible. It's far less expensive to plan for expansion that way than to pay for the labor involved in rewiring years later. It has been estimated that future wiring installed in an existing house will cost 80 per cent more than the cost of activating "extra" branch circuits which were planned into the house when it was built. Estimates are also available which show that the wiring costs of a house designed to minimum standards are from 2 to 3.5 per cent of the total cost of the house, whereas the cost of wiring a house adequately amounts to from 2.5 to 5 per cent of the total house cost. Therefore, it costs only about 1 per cent more to wire a house adequately than to wire it to minimum standards. Considering the 80 per cent figure mentioned above for rewiring, it's hardly economical not to wire adequately.



AIR CONDITIONING COSTS IN LARGE SHOPPING CENTERS

By Francis A. Welch



IN THE LONG BUN, the most economical type of air conditioning for a large. regional shopping center uses a single central refrigeration and air handling plant. This was the conclusion of a previous article * by the author which dealt, in a general way, with the maximum economies to be achieved. The article also pointed out that if the owner's requirements lend themselves to a compact, centralized group of buildings, central air distribution of high velocity air was most economical. For an architectural concept of a group of closely related but separate buildings. chilled water distribution serving each building would result in the second best economy. The features responsible for overall economy in both systems were the low operating cost of utilities and maintenance, together with no loss of rental space. The following article takes a slightly different approach. The emphasis here is not on maximum economy as a goal, but on how yearly costs vary as less money is spent initially for the air conditioning system. It gives specific cost analyses for the various types of systems possible in a 300,000 sq ft hypothetical shopping center.



How Economy Varies

All shopping center air conditioning systems are not designed — and sometimes cannot be — on the basis of best overall economy. This, of necessity, requires a larger initial investment in equipment in order to have a low operating cost, thus providing a low total cost spread over the investment life of the shopping center. There are many instances where the necessary funds for such a design may not be available. The amount of financing available can vary, and as this amount is reduced, a less expensive system will have to be bought.

Thus as initial costs must be scaled down, less and less total economy is realized. This phase of the economics was touched on briefly in the table and sketches in the previous article. To expand this phase of shopping center air conditioning economics, it is the purpose here to break away from the theme of maximum economy of shopping center air conditioning systems and indicate the range of economics possible for a 300,000 sq ft shopping center. This is given to the architect so that he and the client can be fully aware of the financial boundaries of what can be bought, how much it will cost for the life of the building, what impact it has on the building design, what the tenant will be faced with in the way of charges, and what economies can be expected.

Comparison of Designs

In order to make the cost comparisons manageable, we have chosen an average type of shopping center consisting of a co-related group of buildings of about 300,000 sq ft of rentable area. A cost analysis for each of the basic types of air conditioning systems is given, followed by a general discussion of merits, disadvantages, general comments and observations of these systems. Omitted is the high velocity system from a single point in which the initial and operating cost per year will total \$0.50 per sq ft. with no rental loss. This system is feasible if all building units are grouped under one roof.

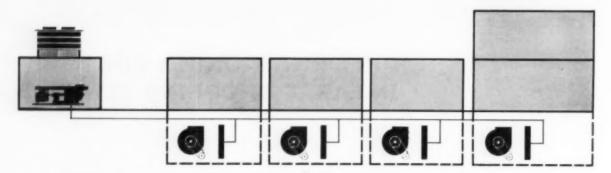
In order that these possibilities may be evaluated without becoming tedious, only the essential factors, and how they affect economy, are spelled out. The figures are average and are intended to serve as a general indication of the relative values of the different systems. Costs include air conditioning and heating in all schemes.

Initial costs are on a yearly basis in terms of sq ft of rentable area and are based on an amortized rate of 4 per cent interest for 20 years.

Operating costs are estimated from fuel, electric power, water, labor and lost rental space costs where they occur. Rental loss costs are due to rentable area given over to apparatus. Total annual cost is the sum of all costs.

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^{*&}quot;Economies in Air Conditioning for Shopping Centers," ARCHITECTURAL REC-ORD, October 1953.



\$3.38

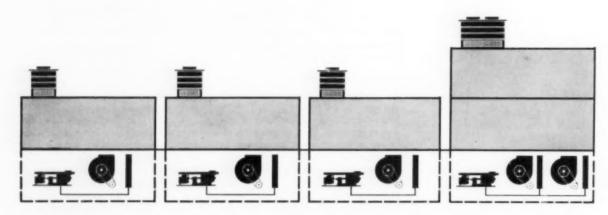
SYSTEM 1: Central Refrigeration Plant, Air Handling Systems in Each Building

INSTALLATION COST PE	R SQ FT	OF RENTAL AREA
ANNUAL COST PER SQ	FT OF RE	NTAL AREA
Initial cost (amortized)		\$.270
Operating cost	\$.190	
Rental less cost	.070	
Total operating cost	\$.260	.260
TOTAL ANNUAL COST		\$.630
ANNUAL COST FOR 300,0	000 SQ FT	SHOPPING CENTER
Initial cost (amortized)		\$81,000
Operating cost	\$57,000	
Rental less cost	21,000	
Total operating cost	\$78,000	78,000
TOTAL ANNUAL COST		\$159,000

Let us start with the most economical system. This would be a single, central station refrigeration plant serving chilled water to a group of buildings, each with its central station air handling plant.

This type of system places refrigeration machinery and cooling towers remote from the selling areas — highly desirable for best appearance.

This system shows the highest initial cost but its annual costs over a 20-year period are lowest due to its favorable low operating cost, resulting from lower maintenance cost and a smaller loss of rental area.



\$3.27

SYSTEM 2: Central Refrigeration and Air Handling Systems in Each Building

INSTALLATION COST PER		
ANNUAL COST PER SQ FT	OF REN	
Initial cost (amortized)		\$.260
Operating cost	\$.220	
Rental less cest	.090	
Total operating cost	\$.310	.310
TOTAL ANNUAL COST		\$.570

The next logical system to analyze would be a complete central station refrigeration and air handling plant in each building. Here we have transferred the remote refrigeration and cooling tower equipment to each building — a less desirable location.

(System 2 continued)

TOTAL ANNUAL COST

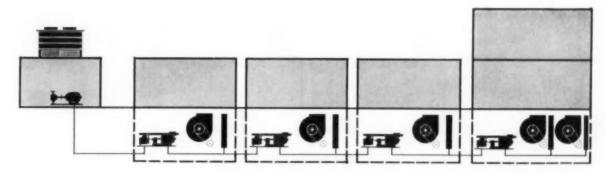
ANNUAL COST FOR 300,000 SQ FT SHOPPING CENTER Initial cost (amortized) 578,000

Operating cost \$66,000 Rental loss cost 27,000

Total operating cost \$53,000 93,000

\$171,000

This system shows a slightly lower initial cost than system No. 1. However, sometimes the balance in cost between these two systems will vary due to the relation of the length of chilled water lines in system No. 1 against the shorter chilled water lines but greater cost of the several scattered refrigeration plants within the buildings in System 2. Operating cost is up a little and the greater space required by the many refrigeration plants over the single plant shows up in a higher rental loss cost. This design also requires unsightly cooling towers on the roof of each building.



SYSTEMS 3 and 4: Central Station Condenser Water to Refrigeration and Air Handling Systems in Each Building

Total operating cost	\$91,500	91.500	
Rental loss cost	25,500		
Operating cost	\$66,000		
Initial cost (amortized)		\$78,000	
ANNUAL COST FOR 300,	000 SQ FT	SHOPPING CENTER	
TOTAL ANNUAL COST		\$.565	
Total operating cost	\$.305	.306	
Operating cost Rental loss cost	\$.220 .085		
ANNUAL COST PER SQ Initial cost (amortized)		NTAL AREA \$.260	
INSTALLATION COST P	ER SQ FT	OF RENTAL AREA	\$3.2

\$169,500

INSTALL	ATION	COST	PER	sq	FT OF RENTAL	AREA	\$3.27
ANNUAL	COST	PER S	Q FT	OF	RENTAL AREA		

	Own	er	Ten	ant	
Initial cost (amortized) Operating cost Rental loss cost	\$.050 None	\$.018	\$.170 .085	\$.242	
Total operating cost	\$.050	.050	\$.255	.256	
TOTAL ANNUAL COST		\$.068		\$.497	
TOTAL ANNUAL COST					\$.56

System 3

Here condenser water is distributed from a remote but centrally located station having a single central cooling tower which serves individual refrigeration and air handling plants in each building. This is essentially a variation of Systems 1 and 2.

The initial cost for this system is about the same as in System 2 due to cost of the long condenser water lines (offsetting the savings achieved with a single central cooling tower) as compared with short condenser water lines from a cooling tower on the roof of each building. Operating cost is also about the same. Here, as in the previous system, the cost balance can vary due to the length of the condenser water lines, in the same way that the cost of the chilled water lines varies in Systems 1 and 2.

Rental loss cost shows a slight improvement. When the costs break favorably, this system has the advantage over System 2 by getting the cooling towers off the roofs of the individual buildings.

System 4

This system is essentially the same as System 3. The owner shaves his first costs by splitting costs with the tenant. Thus the owner furnishes the single central cooling tower and condenser water lines. The balance of the equipment, such as the

TOTAL ANNUAL COST

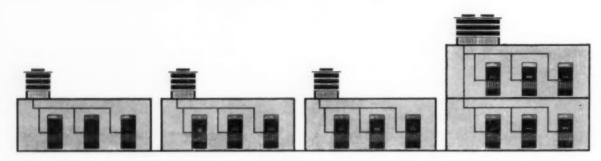
(System 4 continued)

ANNUAL COST PER 300,000 SQ FT SHOPPING CENTER

	Ow	ner	Te	nant	
Initial cost (amortized) Operating cost Rental loss cost	\$15,000 None	\$5,400	\$61,000 25,500	\$72,600	
Total operating cost	\$16,000	15,000	\$76,500	76,500	
TOTAL ANNUAL COST		\$20,400		\$149,100	
TOTAL ANNUAL COST					\$169,50

refrigeration and air handling units, are furnished by the tenant.

Rental area occupied by the air handling apparatus, ducts and piping costs are about the same as System 3. The main features are the splitting of central costs and the possibility of adding the air conditioning at any later date.



\$2.78

SYSTEM 5: Package Units for Individual Tenants

Initial cost (amortized)		\$.220
Operating cost	\$.285	
Rental loss cost	.087	
Total operating cost	\$.372	.372
TOTAL ANNUAL COST		\$.592
ANNUAL COST FOR 300,	000 SQ FT	SHOPPING CENTER
Initial cost (amortized)		\$66,000
Operating cost	\$85,500	
Operating cost Rental loss cost	\$85,500 26,200	
	*	111,700

This last system consists of package units for individual tenants in the various buildings, with individual evaporative condenser or cooling tower for each tenant.

The multiplicity of individual systems here shows the highest total annual cost per square foot of rental area, due to the higher operating and maintenance cost. Heating costs are added in order to make an equal comparison. It has been assumed that all package systems were installed for the complete shopping center, at the start by the owner; therefore the amortization has been calculated on the same basis as for the other systems.

Conclusions

A broad general conclusion can be 'drawn from these figures. High initial cost yields maximum overall economy; low initial cost gives the least. And in between are designs varying accordingly in first cost and economy.

The high initial cost of a well-designed central station type of system, which confines maintenance to a single or few locations and reduces to a minimum or eliminates altogether a loss of rental area, can come up with a low enough operating cost to yield an attractively low total annual cost. This type of system will have many desirable features to appeal to the architect and owner, such as concealed cooling towers, maintenance out of merchandising areas and in only a few locations, lower cost of electrical power and electric service to fewer locations, and a better appearance, in keeping with the magnitude of the initial outlay of capital.

Since the initial capital cost is great in large shopping centers, it is not too surprising to observe that some air conditioning systems are being installed as indicated in our systems 3 and 4. System 3 is a modification of System 2 by making the cooling tower, a single central plant. System 4 is the same as 3 with the owner splitting the cost with the

tenant. This system has the architectural advantage of no cooling towers on the various roofs. If the tenant can be persuaded to bear the cost of his refrigeration plant and air handling systems, under owner restrictions perhaps, the owner's initial capital outlay can be reduced considerably.

Thus it can be seen that economy in air conditioning systems for shopping centers does vary. On one end of the range of possibilities it can be seen that good long-range economy is feasible. On the other hand, where funds are only available for a lower cost system, a more expensive system to operate will result.



Lone Star Cement Compan

PRESTRESSED CABLED ROOF HANGS FROM THIN CONCRETE STADIUM WALL

A "HANGING" ROOF, gently arching down from the upper perimeter of a 4-in.-thick concrete cylinder, encloses a simple yet functional arena in Montevideo, Uruguay. The new stadium is 310 ft in diameter and 83 ft high and enjoys the advantages of completely uncluttered display because of the absence of columns or other interior supports.

The unique 850-ton roof system comprises a series of 256 radial, highstrength, seven-strand cables anchored and supported at the periphery of the stadium and sloping downward, with a drop of about one-tenth of the diameter. to a central tension ring 18 ft in diameter. The peripheral support of the cables is a reinforced concrete ring 6 ft 6 in. wide and 1 ft 534 in. thick. Working outward from a point 65 ft from the center, 9000 trapezoidal-shaped, precast concrete slabs, about 2 in. thick, were fastened to the cables by means of hooks shaped into the projecting ends of the reinforcing rods. After all the slabs were in place, a temporary overload of bricks was applied. With this load in place, the joints between slabs were filled with mortar, which was allowed to gain strength sufficient to bond the strands effectively before the overload was removed. This prestressing of the cables was effected so that the roof will not crack when the cables stretch and so that it will absorb the stresses of wind and rain.

The central part of the roof, 65 ft in diameter, was covered not with concrete but with glass to serve as a light source. Additional light and ventilation are provided by an open strip around the periphery. Drainage from the roof is carried off by four iron pipes leading from a central gutter to the cylinder walls, where they connect with the general drainage system.

The entire roof system was erected in seven weeks. This economy of time was due in part to the fact that no falsework was necessary, except to support the center tension ring during construction.

The 4-in.-thick concrete wall of the cylinder was erected by the slip-form method. It is supported on 64 pairs of cast-in-place concrete piles on 15-ft centers, with extra reinforcing at the bottom of the wall to support dead and



Lone Star Cement Company



live loads. It bears the load of the roof,

and wind stresses, without any other

support, its strength and stiffness being

Leonel Viera of Montevideo created the

design, with the help of Alberto S. Mil-

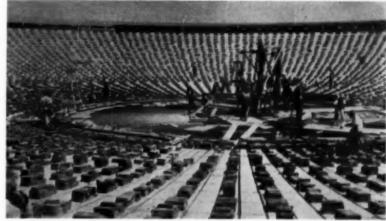
ler, C. E., and Lucas Rios, architect, of Montevideo, and The Preload Co. of

Engineers Luis Alberto Mondino and

inherent in its curved shape.

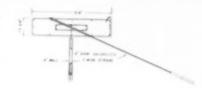
New York.

Lose Star Cement Company



The Preload Company

Concrete slabs are suspended on cables by hooks. Lipped edges dovelail with slabs in preceding rows (above left). Only falsework necessary was at center tension ring (above right). Roof was prestressed by temporary brick superload which was laid on slabs during grouting of slab joints







CONCRETE CANOPIES OVERLOOK CITY OF CINCINNATI

Designed as part of the Bellevue Hill restoration program in Cincinnati, the concrete "pergolas" shown above were described in the Ohio Architect as "a new landmark" which "demonstrates how a design based on local requirements and site, with freedom of thought and a keen sense of proportion and form, can be fitted with good taste into surroundings rooted in tradition."

The shelter consists of three canopies, each supported by six round columns that rise from the middle of round planting beds and slant outward at the upper ends. The columns are 8 in. in diameter and were cast in hollow tube forms which, after stripping, gave them a spiral effect. Each canopy is 30 ft in diameter and ranges in thickness from 3½ in. at the rim to 21 in. at the center.

Concrete in the canopies was air-entrained and was cast against fiberboard liners placed on a wood deck. It was hoisted to roof level, wheeled on runways to forms, and spaded and vibrated in the forms to give a smooth surface and prevent honeycombing. Form liners for the curved grillwork were bent and braced with wood ribs. Beams that form the spokes in the wheels are alternately 6 and 12 in. wide, reinforced with No. 6 and No. 10 bars, respectively. Some of the reinforcement is approximately 60 ft long, serving two adjacent canopies. Fins at form joints were removed with a carborundum stone and all surfaces given a grout clean-down. Vines will climb the columns and twine through the grillwork.

R. Carl Freund, AIA, of Cincinnati, was the architect, and Hixson, Tarter & Associates the structural engineers.

JACKS TILT PREFAB HOUSE SECTIONS INTO PLACE

Another technique of mechanization has been introduced to the residential construction field. Mechanical wall lifters—actually jacks—attach to the tops of prefabricated wall sections and facilitate tilting the heavy sections into place.

The mechanism is fairly simple, consisting of a gyn pole, steel shoes for the base, a cable anchor and a winch. The steel shoes are temporarily nailed to the floor to secure the gyn pole, thus forming a hinge which permits the pole to follow the edge of the wall during lifting. This arrangement also prevents the wall from falling outward once it is erected. The cable anchor is attached to the top plate of the wall, while it is still in a horizontal position, by temporary (double-headed) nailing. The anchor mounts two rollers, and those rollers follow upward along a track on

the underside of the pole. The anchor also carries a spring-actuated safety dog which engages fixed stations built into the pole. Thus there is assurance that the wall will rest securely on the pole even if the cable should break.

To lift the wall, the handle of the geared winch is turned easily to wind the cable and thus move the cable anchor rollers along the pole tracks. The winch has a built-in ratchet which prevents backward movement of the spool. It can be detached from the pole by unscrewing the nuts on the underside and is equipped with a special base which can be nailed to the subfloor for such uses as warping walls into line. It can also be used for setting prefabricated stairs and trusses.

The mechanical wall lifting technique, created by Marvin W. Coleman of Dearborn, Mich., makes possible an effortless lifting of heavy wall sections including porch overhangs and cornice, as shown in the illustration at left. Mr. Coleman assures a saving of both time and money, since little or no scaffold work is involved.

(More Roundup on page 230)



THIN, INSULATING CURTAIN WALL OF PORCELAIN-ENAMELED METAL

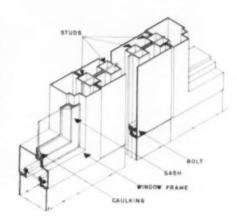
A Thin, porcelain-enameled metal curtain wall which offers insulating and acoustical properties and which is said to meet a 2-hr fire code requirement has been developed by the Erie Enameling Company of Erie, Pa. — and is waiting for its first application in a building.

The adaptable wall system, shown in isometric form at right, consists of box panels mechanically joined to an internal skeleton grid. There is no external framework, and so the exterior of the building, and the interior, are completely smooth. The internal skeleton is composed of formed-steel, porcelainenameled studs fastened to discontinuous risers of asbestos board. The face pans are equipped with interlocking flanges which fit together to provide a weatherproof joint whether or not it is caulked—although it usually is for appearance and extra rigidity. A nut

and bolt assembly, as shown in the drawing, secures the panel. Erection can be accomplished from the inside, thus eliminating the need for scaffolding.

The completed wall, providing both exterior and interior finish, is only 5½ in. thick, but is said to have an insulation value equivalent to 12 in. or more of masonry. This is because the spaces in the wall are filled with a granular-type insulation during erection. Also, there is practically no metal-to-metal contact, since even the studs are porcelain-enameled. The U factor of the wall is said to be 0.78. The minimum metal contact—amounting to only about 0.1 per cent, where the nuts and bolts are located—also improves the acoustical properties of the wall.

The panels are said to have a calculated wind load capacity of 30 psf, which can be increased. Openings for doors and



windows can be located wherever specified, and the panels can be removed after installation for replacement should the occasion arise. The Erie Enameling Co., Erie, Pa.



LOAD-BEARING ALUMINUM WALL SYSTEM

An aluminum curtain wall system in which the 4-in.-thick panels are loadbearing and insulating is prefabricated to the architect's specifications for speedy erection on the job site. Called the "W-A-ESystem" (Weather-Anchor-Expansion), it consists of panels which include integral structural framing, windows, doors and insulation and which are engineered to carry roof loads without additional supporting members. The panels, which sandwich 135 in. of Fiberglas insulation between finished exterior and interior walls, are bolted directly to slab flooring, as shown in the photo above left. Special roof trusses for flat,

shed and ridge roofs rest on and are fastened to the panels, as shown in the lower photo. Clear roof spans up to 60 ft are said to be possible in one-story buildings.

The system has been used recently in Sts. Simon and Jude Church and Parish Hall designed by Schell, Deeter & Stott, Pittsburgh architects. The exterior of the church is extruded aluminum and of the parish hall flat aluminum sheet. Both interiors are ½-in. hardboard. The shell of the church was finished in only four days, and the building costs were reported to be \$11.77 per sq ft. Aluminum Structures, Inc., Pittsburgh.

LIGHTWEIGHT POLYSTYRENE SANDWICH PANELS

Lightweight sandwich panels are possible with Uni-Crest, an expanded and expandable polystyrene which is said to be adaptable to molding into any shape or form with controllable density. With facings of wood, steel, aluminum, plastic or fibers, it provides a panel which ranges in weight from 1 to 20 pcf and is

said to have a low rate of heat transfer and moisture absorption and a small coefficient of expansion. It is produced in molded slab, brick or block form in lengths up to 12 ft, widths to 4 ft and thicknesses to 3 in. United Cork Co., Kearny, N. J.

(More Products on page 244)





CENTRAL-SYSTEM AIR CONDITIONING

(AIA 30-F-1) This 24-page manual presents installation facts about the new Amana self-contained, air-cooled systems, available in 2- and 3½-hp sizes. A variety of home installation possibilities — in attics, basements, utility rooms and crawl spaces — are illustrated, in addition to commercial and custom installations. The manual also describes installation kits which are available as optional equipment and which include lightweight, prefabricated Fiberglas air ducts with aluminum foil vapor barrier, shown at left. Amana Refrigeration, Inc., Amana, Iowa.

Lightweight Construction Systems

(AIA 3-D-3) Describes lightweight roof, floor, ceiling and wall construction with insulating concrete. Also gives product specifications and lists technical bulletins. 16 pp. Acoustical Plastic for Sound-Conditioning and Fire-Safety (4 pp) and Vermiculite Plaster Fireproofing (16 pp) also available from Zonolite Co., 135 So. LaSalle St., Chicago 3, Ill.*

Ainsworth Lighting (AIA 31-F)

Catalog A-7 presents dimensions and installation data about the Spacialite for diffuse illumination, the Budgellile, the Magna, the Executive and the Radiant luminaires. 8 pp. Ainsworth Lighting, Inc., 38-10 29th St., Long Island City 1, N. Y.

Private and Public Pools

(AIA 35-F-2) Catalog 506 includes diving boards and equipment, diving stands, filter tanks, ladders, lifeguard chairs, railings, underwater lights and other equipment for swimming pools. 52 pp. Modern Swimming Pool Co., Inc., 1 Holland Are., White Plains, N. Y.

"Wet Back" Scotch Type Boilers (AIA 30-C-1) Catalog AP-294 presents 13 sizes of Pacific 800 Series boilers. 8 pp. Pacific Steel Boiler Div., National-U. S. Radiator Corp., Johnstown, Pa.*

Lead Building Construction

(AIA 29-B-7) Bulletin 1 provides specifications for the use of lead connections for water closets and similar fixtures. 4 pp. Lead Industries Assn., Architectural Dept., 420 Lexington Ave., New York 17.

Plastics in Home Building

This colorful booklet is divided into sections on foundations, framing, finishing, built-in equipment and mechanical equipment. 16 pp. Bakelite Co., Room 1502, Dept. RM, 300 Madison Ave., New York 17, N. Y.

Stillwater Steam Conduit

Engineering Manual contains blueprints, drawings, tables of soil conditions and other technical data about steam conduit. The Stillwater Clay Products Co., 3334 Prospect Ave., Cleveland 15.

Multi-Purpose Classroom Units

Specification and data file folder includes data sheets on 24 units that compose the complete line of classroom cabinets produced by National School Furniture Co., Public Relations Director, Odenton, Md.

Durable Process, Flameproofs Fabrics

Describes Pyroset guaranteed custom flameproofing of textiles. Perma Dry Co., Inc., c/o Jack Taylor, Dept. R., 3 West 17th St., New York 11, N. Y.

Mississippi Glass

. . . for School, Commercial, Residential, Industrial Use (AIA 26-A). Catalog 56G covers figured, wire, Coolite and glarereducing glass for the types of construction specified. 20 pp. Mississippi Glass Co., Dept. 7, 88 Angelica St., St. Louis 7, Mo.*

Schools with Flexicore Slabs

Includes plans and detail drawings of recent projects by school architects in which steel-reinforced, hollow-cast Flexicore floors and roofs are used. 16 pp. The Flexicore Co., Inc., 1932 E. Monument Ave., Dayton 1, Ohio.*

Convenience Outlets Unlimited

Form 589 describes five sizes of *Plugmold* raceways with capacities up to the No. 6 conductors for industry, stores, offices and homes. 12 pp. *The Wiremold Co.*, *Hartford 10*, *Conn*.

Education Is a Physical Process, Too Describes Fiberglas products for construction and maintenance of schools. 28 pp. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.*

Air Conditioning Equipment

Two brochures describe Janitrol commercial and industrial air conditioning equipment: one covers air-cooled and the other water-cooled installations. Janitrol Heating and Air Conditioning Div., Surface Combustion Corp., Columbus 16, Ohio.*

Wilson Midget Slat Closures

Brochure shows two plans and includes a number of photographs of installations of Midget Slat closures for small apertures. 8 pp. The J. G. Wilson Corp., 370 Lexington Are., New York 17.*

Metalab Classroom Equipment

Catalog 56-CE features a new group of tables and desks offering a tapered leg design to harmonize with modern classrooms. 8 pp. Metalab Equipment Co., Div. of Norbule Corp., Adv. Dept., 214 Duffy Ave., Hicksville, L. I., N. Y.

Aluminum Windows and Doors

Catalog 567-WD illustrates ribbon windows, architectural projected windows, curtain walls, custom windows, aluminum "full weld" doors and monumental entrances for schools. 4 pp. Marmet Corp., Wausau, Wis.*

Sound Control Consoles

Catalog S.132 covers, in non-technical language, a new line of dual channel consoles for central sound distribution of two separate program sources simultaneously. 6 pp. Radio Corp. of America, Bldg. 15-1, Camden, N. J.*

School Cabinets, Under Window

(AIA 19-E) Brochure 9 presents suggestions for designing under-window school cabinets; includes eight installations. 14 pp. Architectural Woodwork Inst., 332 So. Michigan Ave., Chicago 4, Itt.

 Other product information in Sweet's Architectural File, 1956.

(More Literature on page 304)

Washtenaw County Building, Ann Arbor, Michigan Architect: R. S. Gerganoff Contractor: A. W. Kutsche & Co. Equipped with Adlake Double Hung Windows



Another AddaKe aluminum window installation



- . Minimum air infiltration
- · Finger-tip control
- No painting or maintenance
- . No warp, rot, rattle, stick or swell
- Guaranteed non-metallic weatherstripping (patented serrated guides on double hung windows)

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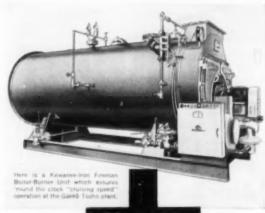


EAST MAY BE EAST ... WEST MAY BE WEST ...

but "Cruising Speed" boiler operation is best ... anywhere



In Far Away Tokyo, Kewanee Boilers Were Selected by Gakko Tosho Company Secause They Provide Reserve Power to Meet Fluctuating Needs. No matter how you say it, in English or Japanese, "cruising speed" boiler operation adds up to the same thing in any language . . . higher efficiency, lower fuel cost, lower maintenance, less wear and tear, longer boiler life. And that's what management at Gakkō Tosho Company wanted in their modern Tokyo printing plant. So they selected Kewanee Reserve Plus Rated Boilers. Here they were assured reserve power to automatically supply steam quickly to operate automatic printing equipment, Reserve power in boilers means "cruising speed" operation . . . dependability . . . with enough power always on tap faster, surer. It means boilers rated on nominal capacity, Boilers rated on maximum capacity run at constant top speed, pile up maintenance and fuel costs-cut boiler life. Next time, choose Kewanee Boilers. Just call for the Kewanee man-in English, Japanese or Sanskrit-and he'll come running to serve you. KEWANEE BOILER DIVISION of AMERICAN-STANDARD, 101 Franklin Street, Kewanee, Illinois



KEWANEE reserve plus rated

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You can depend on Kewanee engineering

RESIDENTIAL ELECTRICAL SYSTEMS-1: Load and Circuit Chart

	Typical Connected Watts	Preferred Circuit	Volts	Wires	Circuit Breaker or Fuse	Outlets on Circuit	Type of Outlet	Notes
Kitchen								
Range	12000	10 kw	120/240	3 =6	50A	1	Special Purpose	Use of more than one outlet is no recommended.
Oven (built-in)	4500	ó kw	120/240	3 =10	30A	1	Special Purpose	
Range Top	6000	6 kw	120/240	3 +10	30A	1	Special Purpose	May be direct-connected.
Range Top	3300	4 kw	120/240	3 #12	20A	1	Special Purpose	
Dishwasher	1200	2 low	120	2 #12	20A	1	Parallel Grounding	These appliances may be direct- connected on a single circuit.
Waste Disposer	300	2 kw	120	2 -12	20A	1.	Parallel Grounding	Grounded receptacles required otherwise.
Broiler	1500	2 kw	120	2 #12	20A	1 or more	Parallel Grounding or Parallel	
Fryer	1300	2 kw	120	2 #12	20A	1 or more	Parallel Grounding	Heavy-duty appliances regularly used at one location should have a separate circuit. Only one such unit
Coffeemaker	1000	2 kw	120	2 #12	20A	1 or more	or Parallel Parallel Grounding	should be attached to a single circuit at one time.
Refrigerator	300	2 kw	120	2 #12	20A	1 or more	or Parallel Parallel Grounding	Separate circuit serving only re-
Freezer	350	2 kw	120	2 #12	20A	1 or more	or Parallel Parallel Grounding or Parallel	frigerator and freezer is recom- mended.
Laundry Washing	1200	2 kw	120	2 #12	20A	1 or more	Parallel	Grounding type receptacle required.
Machine Dryer	5000	6 kw	120/240	3 #10	30A	1	Grounding Special	Separate circuit is recommended.
Ironer	1650	2 kw	120	2 #12	20A	1 or more	Purpose Parallel	Appliance may be direct-connected —must be grounded.
Hand Iron	1000	2 kw	120	2 #12	20A	1 or more	Grounding Parallel	Consider possible use in other lo-
Water Heater	3000			. ,			Special Purpose	cations. Consult utility company for load requirements.
Living Areas Workshop	1500	2 kw	120	2 #12	20A	1 or more	Parallel	Separate circuit recommended.
Portable	1300	2 kw	120	2 #12	20A	1	Grounding Parallel	Should not be connected to circuit
Heater Television	300	2 kw	120	2 #12	20A	1 or more	Parallel	serving other heavy duty loads. Should not be connected to circuit
Portable Lighting	1200	2 kw	120	2 #12	20A	I or more	Parallel	serving appliances. Provide one circuit for each 500 sq ft. Divided receptable may be switch- controlled.
Fixed Utilities Fixed Lighting	1200	2 kw	120	2 #12	20A	I or more		Provide at least one circuit for each 1200 watts of fixed lighting. Consider 4-kw 3-wire circuits to all
Air Conditioner	1200	2 kw	120	2 #12	20A	1	Parallel	window or console type air condi- tioners. Outlets may then be adapted
(¾ hp) Air Conditioner (1½ hp)	2400	4 kw	120/240	3 #12	20A	1	Grounding Tandem Grounding	to individual 120- or 240-volt ma- chines. Connection to general purpose or appliance circuits is not recom-
Central Air Conditioner	5000	6 kw	120/240				Special Purpose	mended. Consult manufacturer for recommended connections.
Sump Pump	300	2 kw	120	2 #12	20A	1 or more	Parallel Grounding	May be direct-connected.
Heating Plant	600	2 kw	120	2 +12	20A	1		Direct-connected. Individual circuit is recommended.
Fixed Bath- room Heater	1500	2 kw	120	2 #12	20A	1		Direct-connected.
Attic Fan	300	2 kw	120	2 =12	20A	I or more	Parallel Grounding	May be direct-connected, Individual circuit is recommended.

From Electrical Construction and Maintenance, Copyright 1955.

WEIS INSTALLED IN WORLD'S BIGGEST!



ARCHITECT: Maurer & Maurer, Architects & Engineers CONTRACTOR: Black & Anderson Construction Co., Inc.

THE NORTH SIDE Gymnasium at Elkhart, Indiana, is the world's largest high school gymnasium... with a seating capacity of nearly 9,000. And in keeping with this modern building's excellent furnishings, Weisart ceilinghung toilet compartments were installed. These toilet compartments are proving themselves in appearance and easy maintenance to be a most economical installation... as they have in thousands of buildings throughout the nation. Send coupon below for further information about the complete line of Weis toilet compartments.

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Please send free descriptive catalog of Weis
toilet compartments cabinet showers

NAME_

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ADDRESS

CITY, STATE

Please send name of representative.



WEISART ceiling-hung style combines modern appearance with sanitation. No dirt-catching corners, no posts to interfere with floor maintenance. Completely rigid. Made to withstand use and abuse. Choice of 24 oven-baked enamel colors. Brass hardware is chrome plated.



toilet compartments and cabinet showers for schools, institutions, industry and home

RESIDENTIAL ELECTRICAL SYSTEMS - 2: Service Entrances

Calculation of a service entrance which has adequate capacity to supply the load requirements of a house is a straightforward procedure. A sample calculation is shown below based on the diagram on pages 212 and 213 and the ratings given on page 225.

First the loads are figured for the branch circuits, which, as stated on page 214, are divided into three categories:

General Purpose Circuits: They serve lights throughout the house and convenience outlets everywhere except in kitchen, laundry, dining and utility areas. Generally, circuit capacity can be figured on the basis of 3 or 4 watts per sq. ft. Using the higher value of 4:

4 watts per sq ft \times 1500 sq ft = 6000 watts

Small Appliance Circuits: They serve convenience outlets in the kitchen, laundry, dining area and utility room. The load on each circuit can be assumed to be 1500 or 2000 watts. Using the higher figure of 2000, the two circuits shown in the diagram will have a capacity of:

2 circuits × 2000 watts = 4000 watts

However, it can be assumed that not all of the load on these two types of branch circuits will be used at any one time. So, in order to determine the service requirements for them, it can be assumed arbitrarily that the first 3000 watts will be operated at 100 per cent capacity and the remainder at only 35 per cent.

3000 watts
$$\times$$
 100 per cent = 3000 watts
7000 watts \times 35 per cent = 2450 watts

Total service requirements of General Purpose and Small Appliance Circuits = 5450 watts

Fixed Appliance Circuits: They serve the heavyduty appliances, each of which requires a separate circuit. Capacities taken from the chart on page 225 are listed above right. The typical household range is calculated at only two-thirds of its rated capacity, since it is assumed that not all of its elements will be operating at full load at any one time:

The other fixed appliances except for the heating and cooling system, are calculated at an assumed 75 per cent demand factor:

Refrigerator-Freezer 650	watts
Dishwasher and Disposer 1500	watts
Clothes Washer	watts
Clothes Dryer	watts
Water Heater	
Workshop	watts

12,850 watts
$$\times$$
 75 per cent = 9637.5 watts

In calculating the heating-cooling load, the higher value of the two systems is used, since it is assumed that they will not be operating at the same time. It is recommended that the architect consult the local utility for information about central air conditioning systems. However, for purposes of this calculation a value of 5000 watts is assumed. Since this is higher than the total of 600 watts for the heating plant and 1500 watts for the bathroom heater, this will be the value used.

Thus, the required current-carrying capacity of the service entrance conductors for a 120/240-volt, 3-wire, single-phase service is:

$$I = \frac{P}{V} = \frac{28,087.5}{240} = 115 \text{ amp}$$

Knowing the current requirements for the service entrance, the proper combination of switches, control center units and wire sizes can be determined easily, as in the typical service entrance schedule shown below.

Typical Service Entrance Schedules for Various Levels of Utilization (120/240 Volts, 3-Wire, Single-Phase)

Nominal Rating, Amperes	Maximum Capacity, Watts	Main Switch	Main Control Center Units	Size of Service Wire	Size of Conduit	Utilization Circuits
100	24,000	100A Sw. 07 100A Cir. Bkr.	2-50A 1-20A (Water heater)	2 #2 1 #4	11/4"	General Purpose Electric Cooking Electric Laundry Water Heater Air Conditioning
150	36,000	200A Sw. (150A Fuses) or 150A Cir. Bkr.	3-50A 1-20A (Water heater)	2 #2/0 2 #2	2"	Same as for 100 amp plus electric heating for small homes
200	48,000	200A Sw. (200A Fuses) or 200A Cir. Bkr.	4-50A 1-20A (Water heater)	2 #4/0 1 #2/0	2"	Same as for 150 amp in temperate climates

From "Live Better . . . Electrically."



Dallas' new Decorative Center, Owner, Mr. Trammell Crow. Architect; Mr. Jacob Anderson, Builders and General Contractors; McFadden & Millor, G-E Distributor, Texas Distributors, Inc.

NEW DECORATIVE CENTER IN DALLAS SELECTS GENERAL ELECTRIC AIR CONDITIONERS

New proof that the merchandisingminded look to General Electric for the best in air conditioning! Now, it's the Decorative Center in Dallas, Texas—one of that progressive city's most important new business additions.

Designed and built to reflect the increasing significance of Dallas in American commercial life, this new center is "comfort serviced" by 22 G-E Packaged Air Conditioners, in various sizes amounting to 180 tons. In making the installation, Texas Distributors, Inc., General Electric distributors in Dallas, located units to give each tenant individual control of temperature and humidity. Total area serviced: 56,000 square feet.

An especially important feature of the

G-E installation is its flexibility in meeting future air conditioning needs. The center has been planned to accommodate up to 100,000 more square feet, in which additional air conditioning units can be placed without any rearrangement of existing equipment.

Low-cost, dependable G-E Packaged Units provide maximum design freedom in new construction and modernization. All models may be used singly or in multiple to meet any air conditioning need. General Electric's famous 5-year warranty assures protection against service problems. For complete details, write: General Electric Co., Commercial & Industrial Air Conditioning Dept., Bloomfield, N. J.



Self-contained ceiling models 3 and 5 ton air-cooled 3, 5 and 7½ ton water-cooled.



Self-contained floor models - 3, 5, 7½, 10 and 15 ton water-cooled.

packaged

AIR CONDITIONERS

Progress Is Our Most Important Product

GENERAL 🚳 ELECTRIC

RESIDENTIAL ELECTRICAL SYSTEMS—3: Wires and Cables

Туре	Description	Applications
R	Single conductor with rubber insulation and braided cotton covering.	General wiring where moisture is not present Temperature rating 60 C.
RH	Similar to Type R except rubber insulation has higher resistivity to heat.	General wiring where moisture is not present has higher current carrying capacity than Type R. Temperature rating 75 C.
RW	Similar to Type R except with moisture-resistant rubber insulation.	In all areas including damp conditions. Tempe ature rating and current-carrying capaci same as Type R.
RH-RW	Rubber insulation has heat- and moisture-re- sistant properties of Types RH and RW.	For damp locations, the temperature rational current-carrying capacity of Type R are used; otherwise the higher ratings of Type RH apply.
RHW	Similar to Type RH-RW.	Similar to Type RH-RW except ratings of Type RH apply for all installations.
TW	Polyvinyl chloride insulation is highly resistant to moisture, heat and corrosion. Rated at 60 C. Current capacity of Type R.	General use and use in damp areas. Whi allowable conduit occupancy is the same Type R in new installations, the smaller dime sions of Type TW are used in calculating the number of conductors allowed in existing coduit or rewiring; this permits substantial higher capacities than other types of wire.
NM (non- metallic sheathed cable)	Rubber or thermoplastic-insulated conductors, with or without separate grounding conductor, covered by heavy paper wrapping and a strong braid.	Interior wiring—exposed or concealed in d locations. Not allowed where exposed to co rosive fumes or vapors, nor embedded masonry, concrete, fill or plaster. Use no metallic boxes or surface devices unle grounding wire is in NM cable.
NMC (moisture- and corrosion- resistant)	Same as NM except with corrosion-resistant outer covering of impregnated braid or other material.	Same as NM except may be embedded plaster or run in chase provided protection afforded from nails by 1/16-in, steel plat Neither NM or NMC may be embedded concrete or used for service entrances.
UF (under- ground feeder)	Thermoplastic-insulated and jacketed conductors in single or multiple conductor styles.	Single conductor for direct burial feeders (clegs in one trench). Multi-conductor UF may bused as NMC.
AC and ACT (called armored cable)	Rubber (AC)- or thermoplastic (ACT)-insulated conductors enclosed in wound and interlocked steel armor; bonding strip under armor.	All interior wiring except in moist areas en bedded in masonry, or in block walls belo grade.
ACL	Same as Type AC except with lead sheath.	Moist areas, underground and embedded concrete,
SE Style U (un- armored)	2 rubber-insulated conductors and bare neu- tral strands (usually spiraled around insulated conductors) covered by protective layers of rubber tape and impregnated braid. Also available with insulated neutral.	For service entrances; interior wiring of rang dryer or water heater providing heater is n fed by uninsulated conductor. With insulate neutral, use is governed by code provisions on NMC.
SE Style A (ar- mored)	Same as Style U except with bonded steel tape under outer layer of rubber tape. Inter- locked armor (not bonded) sometimes used in place of steel tape.	Same as Style U except interior application governed by code provisions on armore cable. For interior use, tape or armor must be grounded.
SD (ser- vice drop) USE	Similar to SE Style U. Rubber-insulated conductors encased in neo-	Primarily for drop from pole to service ma Underground service entrances and runs
Style RR	prene jacket single or multiple conductor. (All RR conductors are not UL-approved for USE applications.)	conduit or direct burial. Also used for aeri runs.
MI (min- eral insu- lated — metal sheathed)	Conductors insulated by highly compressed re- fractory mineral material and enclosed in a liquid- and gas-tight flexible metallic tube.	All normal residential applications includir underground, embedded in concrete ar service entrance. Approved connectors r quired.

From "Live Better . . . Electrically."

why Architects and Engineers

—as well as Contractors and Owners—

prefer



FIRE PROTECTION EQUIPMENT

designed to suit your design

because:

it's easier to specify just what is best for each individual project;*

you know you'll get all that you specify;

Allenco serves better, looks better, avoids waste of cost, time, space.



*A.I.A. file 29e2 gives most thorough easy-to-find data on components, custom-size cabinets, complete systems...includes ready-to-use standard and atternate specs. Write for your copy; meanwhile check Sweets.

TECHNICAL ROUNDUP

(Continued from page 220)

NEW TECHNIQUE DEVELOPED FOR FASHIONING GRANITE

Flame, which flakes and spalls certain rocks and cracks and breaks others, is being put to use on the positive side in a new method of thermal texturing granite. Texturing by this method is brought about by the action of flame heat on the stone, causing it to spall off in controlled amounts.



The materials used in the thermal texturing process are pure oxygen, a fuel gas (which may be acetylene or propane) and water. The oxygen and gas are combined to produce a controlled flame, which passes over the stone to be textured either through a machine-driven or a manual thermal texturing blowpipe. Water used in combination with the flame conducts heat better than the granite, and so a slab can undergo repeated passes of the flame and be just as cool at the end of the operation as before it started. The use of water is also expected to make possible applications otherwise believed to be impractical. For example, oftentimes slabs must be of sufficient thickness to withstand the stress of a mechanical texturing process. Thick slabs are not necessary with thermal texturing, because the flame exerts no bearing force on the stone mass. A 3- or 4-in.thick slab can be wire-sawn into thinner pieces and the rough surface produced textured by flame. Thus the same weight of stone would have two or three times the useful surface for veneer work.

Flame angle, speed of passing and direction of traverse produce distinct differences in texture. The greater the speed, the smoother will be the surface and the lower the cost. With mechanized texturing setups such as the one shown above, with an effective flame width of about 4 in. and speeds up to 110 in. per min, coverage rates up to 180 sq ft per hr are possible. Knot and

TECHNICAL ROUNDUP

knob removal from slabs and rough flame shaping are best handled by hand-operated blowpipes.

Flame sculpture is an application which can be put to use with a hard stone like quartzite. Although it is so hard that it will scratch glass, it is easy to work with flame and will produce smooth, detailed sculpture.

Thermal textured granite, the process for which was developed by the Linde Air Products Co. of Newark, N. J., was subjected to rigorous accelerated weathering tests at the University of New Hampshire, and published results show that the thermal texturing process causes no damage to the stone,

Women in Engineering

They'll play a much more important role in the future, predicted Morris D. Hooven, president of the American Institute of Electrical Engineers, at a recent meeting. Mr. Hooven crystal-balled that "In order to meet the requirements of the future, it is very likely that engineers must work in teams. It is equally probable that the teams may consist of pure professionals assisted by those who are technically inclined but who perhaps have not the desire to become imbued with the consciousness of the mathematical and scientific approach. In engineering teams of this sort, it will be expected, there will be a great number of womenfolk."

Modular Measure

Three men were presented with awards by the American Standards Association at the annual Producers' Council spring luncheon for having done most to encourage the use of modular measure in building. The recipients were Leonard Haeger, Technical Director of Levitt & Sons; Fred M. Hauserman, President of the E. F. Hauserman Co.; and H. B. Zackrison of the U.S. Army Corps of Engineers. Modular measure was given another boost with the announcement that the Associated General Contractors of America now officially endorse the method.

Solar Energy Symposium

Proceedings of the World Symposium on Applied Solar Energy, held last November in Phoenix, Ariz., are now available in a 300-page book (\$5.00) from the Association for Applied Solar Energy, 204 Heard Bldg., Phoenix, Ariz.

(More Roundup on page 234)

"write your own ticket" with ALLENCO widest selection and many exclusive items

Novel HOZEGARD Reel combines nose protection, fastest action and economy. Ideal for industrial applications. Requires no wall work.

First practical cabinet for Obtton Rubber Lined hose, increasingly demanded. Compact, fully protective, yet avoids harmful tight folds.

Improved hose rack tests more than twice as strong as others, safe against vandalism...foolproof, quick-acting. Perfect for housing projects.

"Custom-size" cabinets in wide range of sizes and 3 price ranges to suit each individual application. No mis-fits, no waste of space or funds.

True dimension, suresquare, more rigid construction makes installation faster, cheaper, neater. Doors open and close easier, permanently.

Smooth surfaces blend into your walls. Finished corners and tight joints help keep out dust. Your clients will agree Allenco looks better, too.













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Lighting by DAY-BRITE makes the big difference...

Simms Building, Albuquerque, New Mexico-Architects: Flatow, Moore, Bryan & Fairburn, Albuquerque; Consulting Engineer: M. V. McIntyre, Santa Fe; General Contractor: Lembke, Clough & King; Electrical Contractor: City Electric Co., Albuquerque.

in the

SIMMS BUILDING



Large office spaces are well-lighted throughout, especially on desk tops.

"Land of Enchantment"



This "straight-run" office area illustrates easy adaptability of Day-Brite Mobilex to different lighting requirements.



Quiet dignity, combined with uniform over-all lighting, in an executive office.

The most modern building in New Mexico—land of enchantment—is the recently completed 12-story Simms Building at Albuquerque...It is lighted by Day-Brite—another of many examples of how these modern fixtures lend themselves to modern architectural design.

The famous Day-Brite ribbed-glass enclosed MOBILEX® fixtures, recessed in acoustical-tile ceilings, were used throughout the rental-office areas. The illustrations show how these fixtures assure uniform, eye-comfort illumination on desk tops and other work areas.

Before you specify, see, examine and compare Day-Brite—look at the fixtures, not just the pictures. Your Day-Brite representative will gladly show you. Look for him in your classified phone directory. Or, send for 8-page descriptive Architectural File.

Day-Brite Lighting, Inc.



5465 Bulwer Ave. St. Louis 7, Missouri

NATION'S LARGEST MANUFACTURER OF COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT



Byrne Canopy Hangar Doors for 18 Air National Guard Hangars

Byrne Vertical Lift Canopy Doors meet every specification demanded by military standards for a door that is structurally sound, fast-acting, weather-tight, dependable, safe and economical in operation. In addition, they allow full use of all space in the enclosed floor area. In fact, by forming canopies they actually increase the effective working space.

These canopy doors can be made in sections for any width of opening and may be operated individually or simultaneously. They are motor operated, upward-acting with balanced suspension through cables which transmit dead loads to compact counterweights.

Byrne Doors, Inc., with over 25 years experience in the develop-

ment and manufacture of doors for the aircraft industry, can meet any requirements for hangar doors. The complete line of Byrne hangar doors includes the Vertical Lift Canopy, the Type B Canopy for openings up to 120' wide by 30' high, the Type K Canopy for heights up to 55' with single sections up to 150' wide and the Motorized Slide Doors. For complete information on the Vertical Lift Canopy Doors or other types available, check Sweet's Catalog or write direct to Byrne Doors, Inc.



The above Air National Guard hangar has a Byrne Vertical Lift Canopy Door 78' wide by 33' high. The canopy door is flanked on both sides by two sliding doors 13' wide—which are used to admit planes larger than usual.

CURRENT INSTALLATIONS:

Bangor, Maine
Burlington, Vermont
Reno, Nevada
Wrightstown, N. J.
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Byrne Doors, Ltd., 41 Avenue Road, Toronto, Q.

AIR-SUPPORTED FABRIC DOMES MAY BE USED COMMERCIALLY

Air-supported radomes may have application outside the military, reports Research Trends, published by the Cornell Aeronautical Laboratory, which solved many of the construction problems of the radomes. The large, domeshaped structures, varying in diameter from 9 to 50 ft, are now located throughout the country to enclose and protect large, long-range radar antennas against high winds and severe winter weather. Made of an airtight, coated fabric supported solely by air pressure, they are said to withstand wind velocities up to 125 mph and temperatures ranging from -65 F to 140 F with practically no loss in transmission and reception of radar signals.

The enclosures would appear to have great potential, reports Research Trends, as portable and semi-permanent structures which require a wide expanse of uninterrupted floor area - such as fair buildings, auditoriums, agricultural and industrial storage enclosures, stadiums and skating rinks. The inflated roof would eliminate the need for columns and trusses and would reduce loading on the walls, thus permitting a further reduction in weight and cost of the structure. Such an inflated structure would usually be in the form of a sphere or cylinder, as prescribed by the cut of the fabric and the pressure inside. Only a small amount of pressure - about 1/10 psi - would be necessary for inflation, and this could be obtained from commercial ventilation blowers. Air leakage could be kept to a minimum through use of revolving doors or simple air locks. If power failed completely, cutting out the blowers, the lightweight fabric would settle so slowly that it wouldn't interfere with movement of people below. The absence of any heavy structure would be an advantage in case of fire, earthquake, bombing or other emergency.

As reported in Research Trends, rough cost estimates prepared on a 110- by 225-ft athletic building with an air-supported roof were less than half of the estimated cost for a similar building with a conventional roof supported by steel trusses. In general, the unit cost of air-supported structures decreases with increasing size.

(More Roundup on page 236)



At Southwest Elementary School, Evergreen Park, Ill., learning is easier because Owens-Illinois Glass Block eliminate the excessive glare and harsh contrasts that strain young eyes. Glass block direct daylight upward, diffuse it throughout classrooms all day long.

A sky screen of Owens-Illinois Glass Block provides

better light

to protect precious sight



Architect: Bryant and Walchi, Chicago, Ill. Contractor: Mercury Builders, Chicago, Ill.

EVERGREEN PARK'S beautiful Southwest Elementary School is but one of hundreds of new schools from coast to coast that are utilizing the outstanding advantages of Owens-Illinois Glass Block. For example:

Glass block practically eliminate

maintenance costs . . . won't rust or rot like ordinary window sash . . . eliminate painting and old-fashioned window shades . . . are difficult to break. Heating and lighting costs are greatly reduced because glass block insulate and daylight so efficiently.

If you are planning to remodel your school or erect a new one, be sure to investigate the important benefits offered by Owens-Illinois Glass Block. For complete information, write Kimble Glass Company, subsidiary of Owens-Illinois, Dept. AR-7, Toledo I, Ohio.

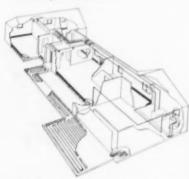
OWENS-ILLINOIS GLASS BLOCK
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GENERAL OFFICES · TOLEDO 1, OHIO

TECHNICAL ROUNDUP

RESEARCH PROVES CENTRAL WATER HEATING-COOLING

A new method of central summer cooling for homes heated by hot water or steam is economical and practical, according to a report based on research sponsored by the Institute of Boiler and Radiator Manufacturers at the University of Illinois.



In the new cooling system, a circuit of small piping is used to hook up a water chiller to a heavy-duty forced convector, consisting of fan, coils and filter. The convector is usually placed in a plenum or distributing chamber which may be formed by dropping a center half ceiling or room about 1 ft (background center in drawing above). Cooled currents of air are released from the plenum through high wall registers into the surrounding rooms. The chiller can be located in the basement, utility room (foreground right above), outdoors or other out-of-the-way location. The boiler for heating is located in the same area and sends forced hot water through a baseboard system around the perimeter of the walls. The sinuous pipe in the foreground is a snow-melting system embedded in the driveway and walk and connected to the boiler. The boiler also supplies all household hot water.

A cost study showed that operating expenses of the cooling system would run about 95 cents a day at an average outdoor temperature of 84 F (maximum outdoor temperature of 94 F). It was estimated that the system can be installed in an average house for between \$1000 and \$1400.

The research, conducted by Professor Warren S. Harris, is part of a continuing residential heating-cooling research program conducted by I-B-R in cooperation with the University of Illinois. Studies are conducted in a six-room test house in Urbana under the direction and supervision of University staff members.

Atom-fired Boiler

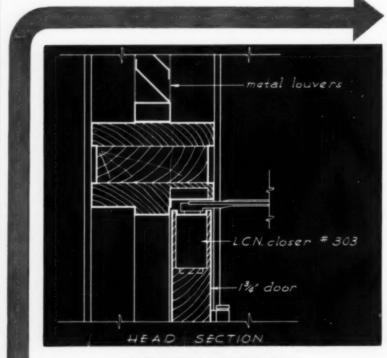
A compact, packaged atom-fired boiler may be only a few years away, according to Frederick H. Klein, president of Orr & Semblower, Inc., manufacturers of packaged automatic boilers. A packaged atomic power boiler would eventually make possible the cheapest heat, steam and hot water that man has ever utilized, he said. "First cost would be higher than today's boiler of comparable capacity. But fuel costs, on the average, would eventually be very low, since the atomic power pack would

probably produce power for long periods without replenishment. And because no liquid or gaseous fuel would be required, piping and installation costs would probably be significantly reduced also."

Plastic Piping for Water

A three-year test with various plastic pipes has shown that the pipe in no way affects color, odor or flavor of the water, reports the National Sanitation Foundation in Ann Arbor, Mich.

(More Roundup on page 240)



CONSTRUCTION DETAILS

for LCN Closer Concealed-in-Door Shown on Opposite Page The LCN Series 302-303 Closer's Main Points:

- 1. An ideal closer for many interior wood doors
- Mechanism concealed within door; flat arm not prominent, and provides high closing power
- 3. Door is hung on regular butts
- 4. Closer is simple to install and to adjust
- 5. Used with wood doors; wood or metal frames
- Practically concealed control at little more than exposed closer cost

Complete Catalog on Request—No Obligation or See Sweet's 1956, Sec. 18e/L

LCN CLOSERS, INC., PRINCETON, ILLINOIS

MODERN DOOR CONTROL BY LCN -CLOSER CONCEALED IN DOOR

EDISON JUNIOR HIGH SCHOOL, SIOUX FALLS, SOUTH DAKOTA

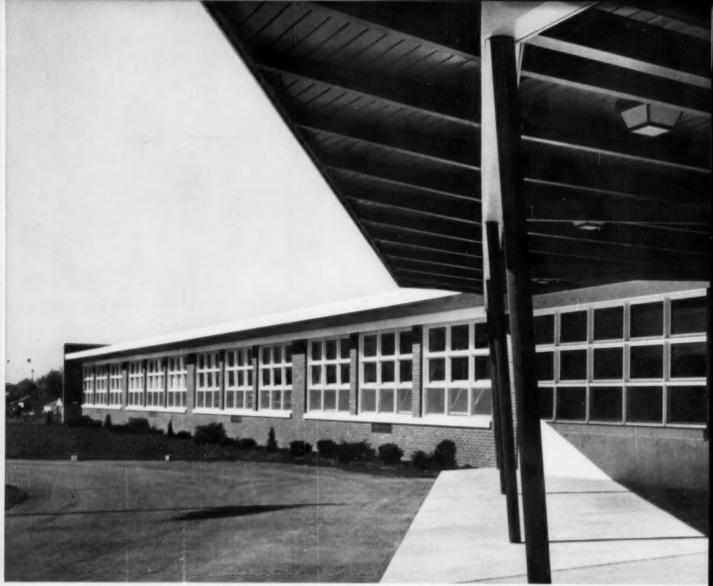
LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page





Harold Spitznagel & Associates, Architects

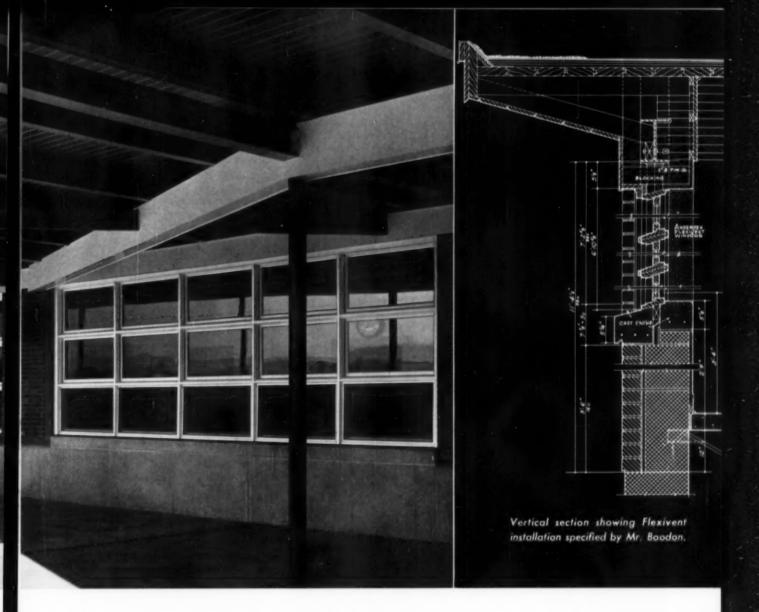


Classrooms of Salem School feature 3-high groups of Flexivents #322. Top row of windows is stationary,

"Flexivents" add warmth and

Classroom scene shows how Flexivent Units made of insulating wood bring atmosphere that Principal Rhinard describes as "warm and homelike...so important to elementary schools."





beauty to our new school"

says Pennsylvania school principal

"We are glad Architect John Boodon specified Flexivent Windows for our new building," says Theron R. Rhinard, principal of Salem Township School, Berwick, Pa. "They fit tightly, are free from drafts, yet are opened easily to admit fresh air."

Like so many others across the country, Architect Boodon finds Andersen Flexivent Windows adapt perfectly to the design demands as well as operational requirements of modern school buildings.

We'd like you to have the complete story on advantages offered by Andersen Flexivent Units in designing schools and light commercial structures. Our catalog is in your Sweet's Files or you can write Andersen for Detail Catalog and Tracing Detail File, Andersen WINDOWALLS are sold throughout the country including the Pacific Coast area.

ANDERSEN CORPORATION . BAYPORT, MINNESOTA

Andersen Windowalls

TECHNICAL ROUNDUP

BRI DRAWS RECORD CROWD TO FIFTH ANNUAL MEETING

Continuing its upward swing, the Building Research Institute attracted a record attendance to its Fifth Annual Meeting held in Niagara Falls, Ontario, on May 21st and 22nd, Architects, builders, businessmen and others interested in the design and construction of buildings distened to formal discussions on such subjects as particle boards, plumbing, planning a community, stan-

dard steel buildings, adhesives and "What Mrs. America Wants in Tomorrow's Home"—and they took part in informal discussions on these and many other topics, related and unrelated, during the "in-between" times.

Some comments, predictions and miscellany forthcoming from the meeting: Albert G. H. Dietz, Professor of Building Engineering and Construction at M.I.T.: Adhesives in building have made great strides in the past few years, but we are only beginning to know the contribution they can make in the building field. Carl A. Rishell, Vice President of the Timber Engineering Co.: Particle boards and other economical wood products very soon will completely replace solid lumber as cores for doors and furniture. John N. Highland, Jr., Chairman of the AIA Committee on Home Building, stressing the importance of over-all planning in a new community: In the old days a decorator was employed to correct architectural mistakes on the inside, and a landscaper to correct mistakes on the outside.

Richard B. Pollman, architectural consultant to Scholz Homes: The cost per square foot of bathrooms is more than any other room in the house, except perhaps kitchens. More prefabrication is necessary.

Nicholas Maczkor, American Radiator and Standard Sanitary Corp.: Enough water goes over Niagara Falls in one minute to flush 24 million residential water closets!

EXPOSURE TESTS CONDUCTED ON LANDSCAPE MATERIALS



Outdoor exposure tests are being conducted by the Texas Engineering Experiment Station at College Station. Tex., to determine the lasting qualities of structural materials and preservative and decorative treatments used in landscape architecture. The materials have been mounted on eight large frames, arranged so that two face in the direction of each cardinal point of the compass. The two frames pictured above are testing various kinds of wood, both natural and treated, in vertical slat arrangements and materials such as plastics, sheet metal, asbestos and fabrics mounted in 1-ft squares. Even the special wood frames are being tested. Comparative color photographs are being taken periodically for study. Robert F. White, associate research landscape architect, is in charge of the study.

Nuclear Energy Engineering

This committee has been formed by the American Society of Heating and Air-Conditioning Engineers to keep abreast of developments in nuclear energy affecting the heating and air-conditioning industry.

LIGHT CONTROL DRAPERIES



The latest of its kind on the market, LuXout offers you soft light without glare, or complete darkness for the classroom. Made of the finest virgin plastic vinyl and available in a wide variety of colors, custom tailored to suit the classroom, LuXout draperies are famous for their beauty and durability.



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includes assistance in three important phases of your total responsibility. Careful consideration of these three steps in Hillyard service can assure floor beauty and utility that will commend complete client satisfaction.



RECOMMENDATION OF SPECIALIZED PRODUCTS. Every Hillyard product is made because of a particular need. Whether it's treating a new concrete floor to permit proper curing or sealing asphalt tile to develop a more beautiful slip-resistant finish, the Hillyard "Maintaineer" has the answer to any floor problem.

PROPER APPLICATION METHODS are thoroughly explained and illustrated in material that is made available to your contractors.



"JOB CAPTAIN" SUPERVISION is provided FREE on any job you specify. To be sure these application methods are fully understood and used according to specifications, a staff of trained experts located throughout all 48 states is available to you at all times.

AL JOLSON MEMORIAL Architect: Paul R. Williams, Los Angeles



of any job on your boards now. There's a Hillyard floor freatment expert nor you. Just send the coupon above or write to Hillyard, St. Joseph, Mo.





TRUSCON STEEL Capture sun and sky for these

The City of Omaha, Nebraska, is investing in school "futures." Erecting substantial, well-designed buildings that will serve for many years. Insuring against premature obsolescence and future classroom shortages.

As an example of foresighted design, Truscon® Intermediate Classroom, Intermediate Projected, and Donovan® Steel Windows are daylighting these six recently erected Omaha schools.

Truscon Steel Windows are light, bright, weathertight. Being steel, they offer the inherent structural strength necessary for use in large unsupported glassed areas. They won't warp, swell, shrink or rot. They are designed specifically for school daylighting and ventilation.

Truscon offers window types and sizes for every

elementary school, secondary school and college need, including classrooms, gymnasiums, auditoriums, cafeterias, dormitories, laboratories, power plants and offices. All are engineered to the application.

Sweet's File, section 17b/Tr, has more facts, specifications and details. Or, send coupon for your personal Truscon Window and Door catalog (A.I.A. File No. 16-E).

More Republic Steel Products for better school construction include Steel Lockers, Wardrobes, Shelving and Office Furniture made by Berger Division; Truscon Steel Joists, Ferrobord® Roofdeck, Metal Lath and Reinforcing Products; Republic ELECTRUNITE® "Inch-Marked"® E.M.T. Rigid Steel Conduit; Republic ENDURO® Stainless Steel. Send coupon.



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PRODUCT REPORTS

(Continued from page 221)

Porcelain Enamel on Foil

Porcelain enamel in a wide range of matte and glossy colors is now available for individual or continuous lamination to all kinds of backing materials. Called Vitrafoil, it is processed onto aluminum foil as thin as .0005 in. and produced in 500-ft coils 50 in. wide. It can be used to decorate low-cost backing materials such as plywood, pressed wood, fiberboard, asbestos board and gypsum board. Keasbey Corp., Keasbey, N. J.



Subfloor and Underlayment

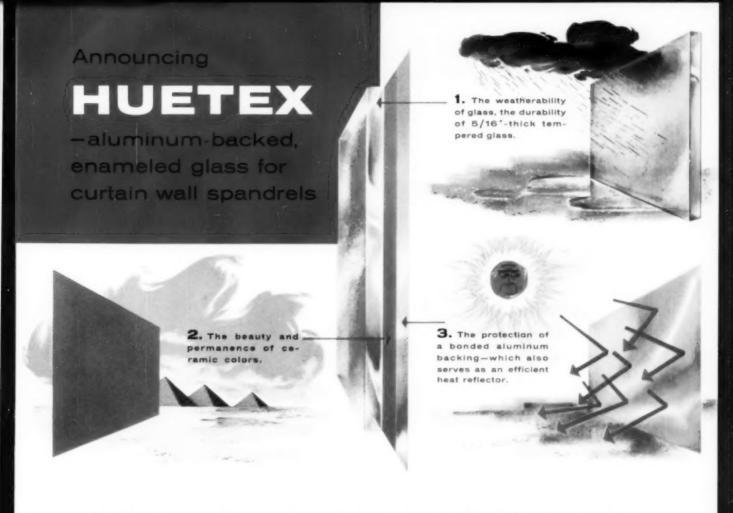
A new structural plywood panel called 2.4.1 is engineered to function as a solid one-piece base over supports on 48-in. centers for everything from thin vinyl tile to oak strip flooring. The unsanded, 1½-in., seven-ply panels are laid quickly over floor framing, as shown above, to provide a stiff floor which can be covered with carpeting, tile or any other type of flooring. The panels also provide a clean ceiling in basement houses. Douglas Fir Plywood Assn., Tacoma 2, Wash.



School Lighting Fixture

New Visionaires in the L1680 series are said to fulfill school illumination requisites such as high-intensity illumination with low brightnesses, proper shielding from all normal viewing angles and maximum installation flexibility. The metal louvers provide 35 degree shielding, and the translucent white, ribbed, plastic side panels, metal-reinforced, have low brightness, thus reducing fixture to ceiling contrasts. The units are only 4½ in. deep, available for ceiling or pendant mounting in rows or separately. Sunbeam Lighting Co., 777 East 14th Place, Lox Angeles 21.

(More Products on page 248)



It's all fused into one unit for a combination of rich, permanent color, pleasing surface texture and reflective insulation.

The uniformly textured surface of the patterned glass subdues bright reflections.

It's Tempered. Huetex is tempered to a mechan-

ical strength of 3 to 5 times that of regular glass of the same thickness; 6 to 8 times the impact strength.

Huetex can be used with a variety of framing systems and insulation of your choice. For further information, write to Libbey Owens Ford Glass Co., 608 Madison Avenue, Toledo 3, Ohio.

HUETEX GLASS by Blue Ridge



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IN 12 BEAUTIFUL STANDARD COLORS OR CUSTOM-MADE TO YOUR COLOR SAMPLE



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"So Airtemp is Chrysler-Engineeredwhat's that to ME?"



CHRYSLER ENGINEERING MEANS QUIET OPERATION AND SATISFIED CLIENTS!

You can hardly hear Airtemp, it's so quiet! Chrysler engineering has made the difference, reduced the sound to a whisper. Airtemp has been manufactured to higher tolerances. Moving parts are dynamically balanced. Pressure lubrication reduces friction and wear. The result is air conditioning you can feel but not hear.

Quality engineering means a better product every time. It means lower installation and maintenance costs, continuous peak performance and more efficiency. It means happier, more satisfied clients. Write today for complete information about Chrysler-Engineered Airtemp air conditioning.

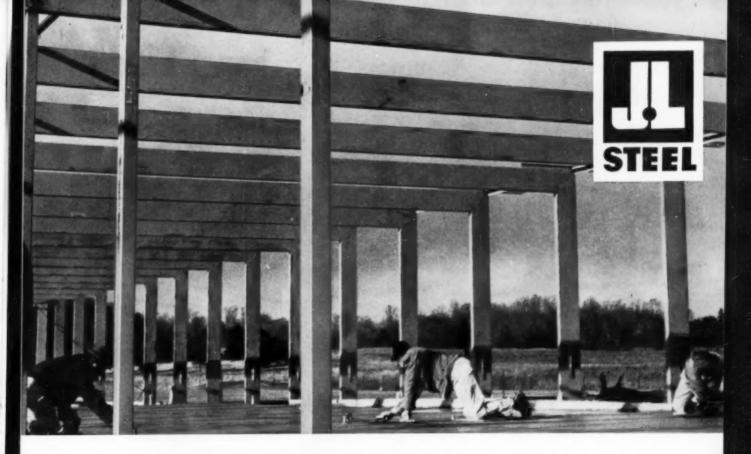
Air Conditioning
FOR EVERY NEED IN HOMES, BUSINESS, INDUSTRY





SUBSIDIARY OF CHRYSLER CORP

Airtemp Construction Corporation, Dept. AR-7-56Dayton 1, Ohio.



RIGID STEEL BENTS FORM BASIC FRAME OF WHEATLEY SCHOOL, EAST WILLISTON, LONG ISLAND

Boxed and Exposed J&L JUNIOR CHANNELS give classrooms clean, fresh appearance

Architect W. Frank Bower, Jr., of La Pierre, Litchfield & Partners, New York, has employed 130 tons of Junior Channels in the new two million dollar Wheatley School (East Williston, Long Island Junior-Senior High School). The 12", 10.6# Junior Channels are boxed to make rigid bents forming the basic frame of the classroom buildings.

The bents were fabricated in two sections by De Voe Iron Works, Inc. of Long Island City, then trucked to the job. Erection went fast. Mr. Stephen J. De Voe, Jr. reported that it required only five hours to erect the 56 bents in one 232' x 71'-4" building.

Mr. Bower summed up the advantages of

using J&L Junior Channels in the school's unique design by saying:

"The exposed structural steel bents or rigid frames are the basic frame of the building. This was done to take advantage of insulating cement and wood fiber structural plank which has excellent acoustical properties. In addition we avoid the use of hung ceilings. As a result we estimate savings of \$40,000 to \$50,000 on this \$2,000,000 building.

"This type of construction eliminates the confined air space between roof and hung ceiling which, unless mechanically ventilated, stores hot air to reflect heat on the classrooms in the warmer months. The rigid

frames give a cleaner, fresher look than alternate materials. We prefer them as being more interesting than the usual flat hung ceiling. They also give us a chance to introduce more color into the classrooms."

If you're designing light occupancy buildings, ask us for complete information about J&L Junior Channels. Take advantage of the strength of these light weight hot rolled sections, and their adaptability to a wide range of architectural design.

Jones & Laughlin

STEEL CORPORATION PITTSBURGH

Artist's rendering of the Wheatley School





22 Celling Units Installed In Massive 13,500-Seat Collseum

Comfort conditioning the cavernous interior of this unusual new structure in Charlotte, N. C., is a man-size job. The huge aluminum dome, easily the world's largest at more than 332 feet in diameter, covers an area of two acres.

Heating and ventilating the new coliseum is accomplished by 22 Marlo Ceiling Units, with a combined capacity of 336,800 cubic feet per minute.

The building was designed by architect A. G. Odell, Jr. General contractor was Thompson & Street Co., mechanical contractor was Hopkins, Hicks and Ingle, and engineer was Mechanical Engineers, Inc., all of Charlotte.

View at right shows some of the 22 Marlo Heating and Ventilating Units installed in the new coliseum. Write today for more detailed information on these and other Marlo air conditioning units.

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IN SWEET'S CATALOG



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Quality Air Conditioning and Heat Transfer Equipment Since 1925

PRODUCT REPORTS

Fire Alarm for Small Schools

A supervised fire alarm system for manual or automatic operation in small schools and other buildings activates bells or horns which are distinct from other signals. The alarm can be sounded by single operation of manual stations or automatic operation of combination fixed-temperature and rate-of-rise detectors. The system operates through a supervisory control panel designed for use on any 115/230-volt, 60-cycle, three-wire source. A trouble bell, used to warn of accidental shorts or grounds in circuits is supplied as regular equipment. Edwards Co., Inc., Norwalk, Conn.



Heat Pump

An electric heat pump which takes heat from the ground and pumps it into the house in winter and reverses its cycle in summer to remove heat from the house is now available. Packaged in a styled cabinet, the unit is available in five capacities: 2½, 3¾, 5, 6 and 7½ tons. Perfection Industries, 7609 Platt Ave., Cleveland 4, Ohio.



Rolling Studio Seating

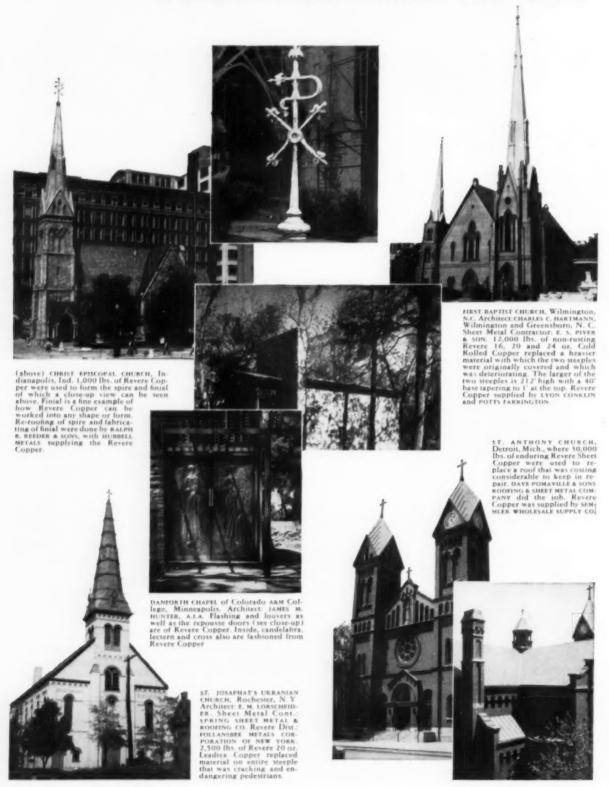
Roll-O-Malic chair stands consist of rolling stands in which folding chairs are an integral part. When not in use, the entire setup folds back into a compact unit, freeing the floor space for other activities. In the installation pictured above, over 43 ft of floor space seating is provided, with seats for 204 people in each 16-ft unit. Berlin Chapman Co., Berlin, Wis. (More Products on page 252)





Murray St., New York 7, N. Y. 1229 W. Washington Blvd., Chicago 7, III. In Canada; Renfrew Elec. & Refrig. Co., Ltd., Renfrew, Ontario

Since its use on the



Old North Church in 1806 REVERE COPPER

Has protected our houses of worship the Country over

According to a record book recently discovered in an old chest stored in a stable, Paul Revere once sold 681½ pounds of sheet copper at .48 per lb., and assorted copper wrought nails at .54 per lb. for use on the steeple of the Old North Church, Boston. The dates were July 19th and September 18th, 1806, five years after Paul Revere rolled the first copper sheet in America at his mill in Canton, Mass.

In 1954, the modern mills of Revere rolled and donated approximately 8,000 lbs. of copper for sheathing the new steeple of the Old North Church replacing the one toppled

by Hurricane Carol (see photos this page)

So, for a century and a half Revere Sheet Copper has been used on churches of every denomination, for crosses, roofs, gutters, leaders, flashing, doors, spires, fleches and other ornamentations. And, on the inside, Revere Copper Water Tube is being used extensively in radiant panel heating systems and water lines. Not alone in churches, but in Government Buildings, State Capitols, hospitals, schools, municipal and office buildings, from one end of our land to the other, Revere Copper has served faithfully.

REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801 230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Brooklyn, N. Y.; Chicago, Clinton and Joliet, Ill.;
Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.;
Newport, Ark.; Rome, N. Y.
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When final assembly of the steeple was made at the site, the largest crane in Boston was called on to hoist steeple into place. All trim, flashing, roofing and deck are Revere Leadtex Copper.





How to turn a warehouse into a modern office



with the help of Electro Silv-A-King Lighting

"Magic Frame Troffers easiest to install fixture we've ever handled."

- M. J. Rihel, Supt. Hultgren Elec. Co., Chicago

Three floors of this Butler Bros. Building in Chicago, each averaging 56,000 sq. ft., were completely remodeled into the modern, air-conditioned offices shown above in exactly four months from the first planning meeting. According to Butler Bros. Engineering Dept., and the contractor Hultgren Elec. Co., Chicago, Electro Silv-A-King's Magic Frame Troffers — with their one piece removable Reflector Plate Wireway cover containing all electrical components were installed with record speed.

Throughout the entire three floors, these fixtures provide a maintained lighting level of 50 F.C. free of glare and shadow. Comments concerning these better, modern troffers have been extremely favorable from the tenants and office personnel.

Complete "Magic Frame" Data and Specification Catalog available



Electro Silv-A-King Corporation

1535 South Paulina Street, Chicago 8, Illinois Spruce & Water Sts., Reading, Pennsylvania

PRODUCT REPORTS

Porcelain-faced Plywood Panels

Porc-Lin-Ply panels, 36 by 96 in., consist of a 30-gauge, .012-in. steel face treated with two coats of fused porcelain on a core of ½-in. exterior grade plywood. The ½-in.-thick panels are available in nine shades and weigh only 1.75 psf. They are said to be weather-proof and resistant to odors, ordinary acids, oil, grease, smoke and solvents. U. S. Plywood Corp., 55 West ¼4th St., New York 36, N. Y.



Perforated Acoustic Formboard

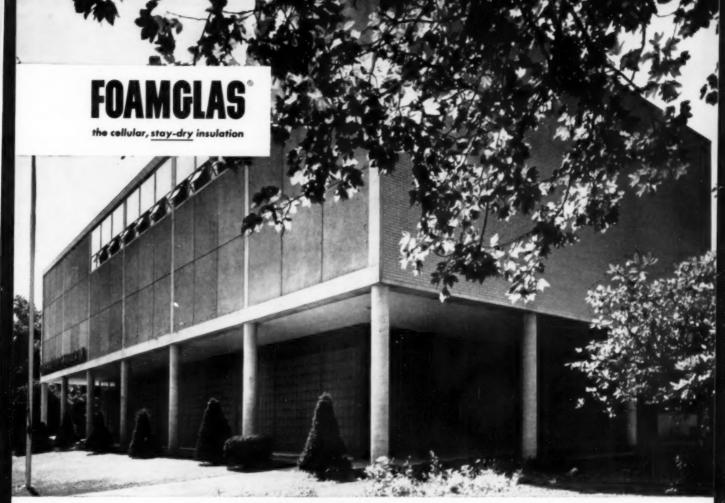
Hansolone perforated acoustical formboard is a strong wood fiberboard developed for use with poured-in-place gypsum roof decks. The gypsum is poured over the formboard and wire mesh reinforcing, and the board then serves as an interior finished acoustical and insulating ceiling, as shown above. It is designed for use with standard sub-purlins spaced at approximately 325% in. O.C. Elof Hanson, Inc., 220 East 42nd St., New York 17, N. Y.



Shallow Depth Recessed Light

Especially suitable for use in acoustical tile installations, the F-388-AL overhead recessed fixture, designed to accommodate a 100- to 150-watt lamp, has extra shallow depth. The box measures only 3 in deep and is also 11½ in. square. The glass is ¼-in. thick cast carrara. Gasketing of frame and glass provides protection against moisture. The fixture can also be used for marquees, canopies and other limited headroom areas. The Perfectile Co., Cleveland, Ohio.

(More Products on page 256)



Swimming pool walls (first floor) and gymnasium roof (second floor) are insulated with FOAMGLAS to prevent condensation in these humid areas. A wall of PC Glass Blocks (first floor) insures privacy within the pool area while admitting ample natural light. Architects were Raymond & Rado, New York, N. Y.

FOAMGLAS roof and wall insulation stays dry to solve condensation problems at Port Chester 'Y'

FOAMGLAS roof and wall insulation was used to eliminate condensation problems in this striking new YMCA Building at Port Chester, New York.

A constant high humidity condition in gymnasium and swimming pool areas called for an insulation with positive moisture resistance . . . to provide constant insulating efficiency and thus prevent condensation. FOAMGLAS

solved the problem because it stays dry!

FOAMGLAS is the ideal insulation wherever constant high humidity exists. Its structure of sealed glass cells prevents the moisture pick-up that can ruin insulating efficiency. That, plus its high structural strength, made it the natural choice for insulating gymnasium roof and swimming pool wall areas at the Port Chester 'Y

FOAMGLAS is fireproof, too, Inorganic, it can't rot or deteriorate . . . offers no food or nesting materials for vermin. Lightweight, yet strong and rigid, it is quickly and economically applied for long, trouble-free service on roofs, ceilings, walls, floors, low-temperature spaces or piping.

See for yourself how you and your clients can get all these benefits with FOAMGLAS, the unique, cellular glass insulation. Send today for a free sample and directions for six simple tests to prove it's the ideal insulation for your

needs. Write . . .



The combination of light weight and rigidity makes FOAMGLAS easy to lay quickly and econom ically. What's more, its high compressive strength provides a firm base for built-up roofing.

Pittsburgh Corning Corporation

Dept. B-76, One Gateway Center Pittsburgh 22, Pennsylvania In Canada: 57 Bloor St. W., Toronto, Ontario



also manufacturers of PC Glass Blocks

When the fate of nations... depended on a piece of TEAKWOOD

K'wan Gung, legendary warrior of old Cathay was noted for valor and prodigious feats of arms. His saga, in song and verse—from ancient records, tells of his love for personal combat. His venerated spear, like the sword Excalibur of King Arthur, had a reputation. Its shaft was of polished teakwood and withstood the shocks of over 500 personal combats.

K'wan's custom was to settle an issue with a rival nation by dueling with its leader while both armies watched. Thousands of lives were thus saved. K'wan was only as strong as the shaft of his spear—his own life and the fate of both nations depended on the sturdy teakwood. "It hardened with age," says the legend, "and when K'wan died went to his son".

It is well known that strong teakwood wall paneling, used as a setting—distinguishes any art form. It beautifies interiors by accenting the art of the architect... Teakwood is used for bases of rare objets d'art, to frame priceless old paintings, because its dusky richness emphasizes both color and line—and resists time and wear.

The architect's genius deserves the same advantage . . . only teakwood wall paneling can adequately complement the architect's inspiration . . . give full expression to his creation.

Teakwood connotes Prestige — Permanence — Stability — Richness and Conservatism. This makes it ideal for executive offices, meeting rooms of directors, banks, insurance companies—and homes where family pride calls for permanence and tradition. In places of worship, parsonages and rectories—teakwood provides a mellow, historic and reverent atmosphere—the solemn mood of old world cathedrals.



You cannot specify a finer, richer, more beautiful paneling than Teak.

JUST OFF THE PRESS!

New, complete description of 33 disfinctive species of veneers for architectural paneling. Color-toneslog origins—lengths—availability—relative value.

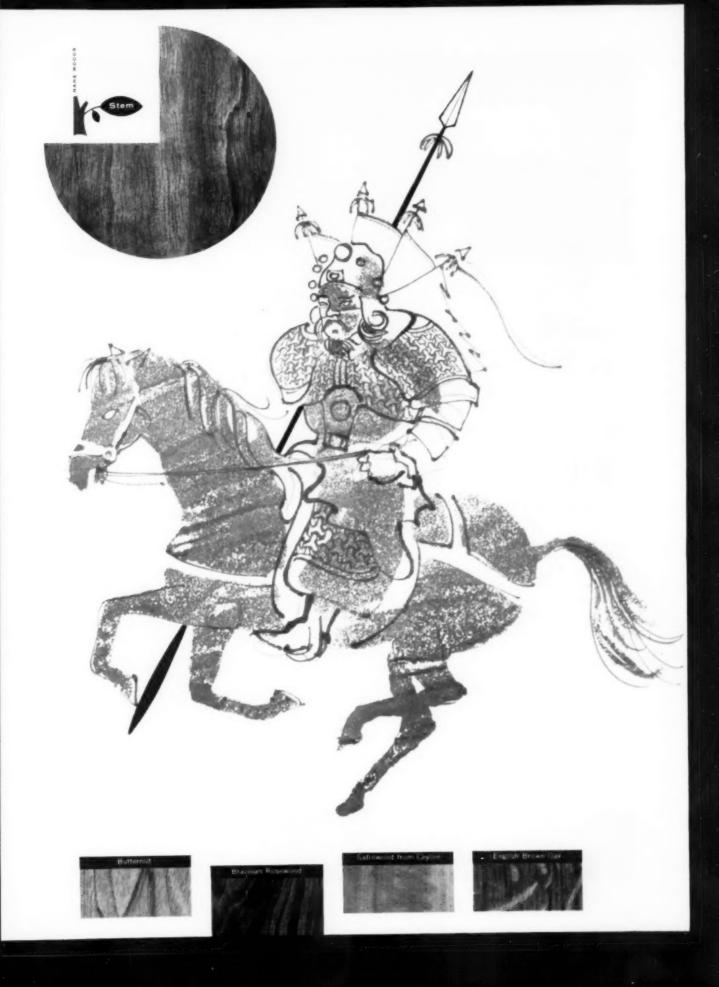
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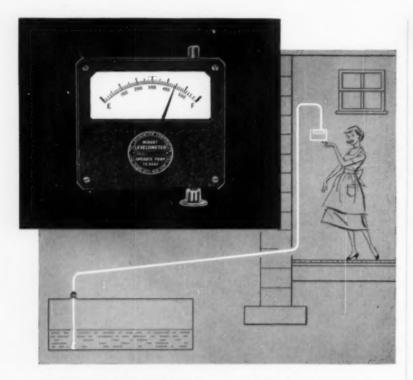
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785 Grant Line Road, New Albany, Indiana

Rare Woods To Frame The Creative Works of Architects All Over the World.



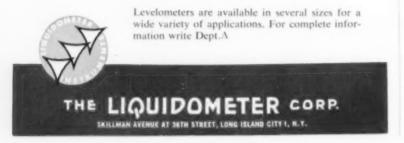


LOW-PRICED...QUALITY MIDGET LEVELOMETERS

GIVE DEPENDABLE INDICATION OF TANK CONTENTS

Midget Levelometers provide home owners and plant engineers with reliable, easy-to-read, trouble-free indication of fuel supply. The dangers and inconvenience of old-fashioned dip sticking and taping methods are eliminated. In the plant, fire and labor hazards are cut . . . costly shut-downs caused by lack of fuel are avoided.

Levelometers operate on an adaptation of the hydrostatic principle. They establish a balance between the height of the liquid to be measured and an indicator. Dial type indication provides maximum readability. Levelometers are precision built, rugged, easy to install and constructed of the finest materials. Approved by UL, FM and BSA, New York, they are used for gaging fuel oil, diesel oil, gasoline and a variety of other liquids.



PRODUCT REPORTS

Revolving Door Speed Control

A positive speed control for revolving doors will not permit a door to be rotated more rapidly than 12 rpm, which is considered the maximum safe speed for pedestrian traffic. The control can be used on any door and can be set at any maximum speed up to 12 rpm. International Steel Co., Evansville, Ind.



Acoustic Lighting Panels

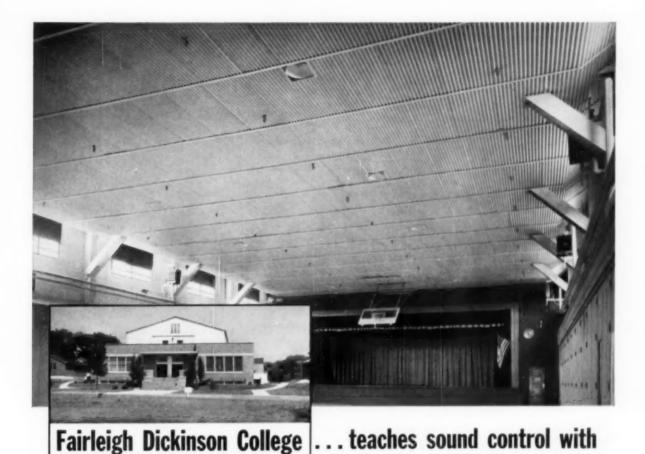
Sound-dissipative translucent lighting panels for luminous ceilings utilize the concept of perforated surfaces for high noise reduction. For maximum light diffusion and sound dissipation, perforated Iso-Sonic panels are used with non-perforated clear plastic Iso-Lyle panels inverted and placed above them. Both parts can be separated for cleaning. They are useful in air-conditioned rooms where free circulation is required between upper ceiling chambers and room areas. Iso Industries, Inc., 1654 Lincoln Blvd., Santa Monica, Calif.



Closet Air Conditioner

Typhoon Weather-Selector can be attached to a furnace to provide summer cooling in the same system that provides winter heating. The cooling coil slides into a housing provided at the top of the furnace, and the air-cooled, waterless condensing unit goes outside. A blue-print of closet specifications is also provided by Typhoon Air Conditioning Co., Brooklyn, N. Y.

(More Products on page 258)

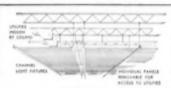


ReynoCoustic

Since its founding in 1941, Fairleigh Dickinson College in New Jersey has grown rapidly to an enrollment of over 6,000 students. As part of its program of plant modernization, Reynolds aluminum acoustical system was selected for the gymnasium ceiling.

ReynoCoustic was specified to provide a modern looking ceiling, economical to install, easy to clean, combining noise reduction with good thermal insulation. Other advantages are high light reflectivity, excellent fire-spread rating (U.L. label on each shipment) and ready accessibility to utilities above the ceiling.

All of these advantages are important to industry... which can well take a lesson from Fairleigh Dickinson, in sound control with ReynoCoustic.



Typical perforated panels laid on T channels. Noise reduction up to .90, uniformly high at all frequencies.

A complete installation service is available. For name of nearest franchised acoustical applicator, call the Reynolds office listed under "Building Materials" in classified phone books of principal cities. For complete literature write to: Reynolds Metals Company, Building Products Division, 2015 South Ninth Street, Louisville 1, Kentucky.

REYNOLDS ALUMINUM BUILDING PRODUCTS

See "FRONTIER," Reynolds great dramatic series, Sundays, NBC-TV Network.

PRODUCT REPORTS

Electric Folding Partition

Emco Powermaster electric folding partition makes it possible to divide any large indoor area in a matter of seconds. It is fully automatic, controlled by a single key switch, and when fully extended approximates a solid wall capable of absorbing normal shock and wear. It is also said to have excellent sound and heat insulation. The doors are constructed around a truss of steel channels welded into a one-piece solid frame, and so won't shrink, expand or warp. Each partition features over-travel, so there are no obstructing floor tracks. A floor seal pressure-seals the door against the floor. Equipment Mfg. Co., Inc., 1500 Spruce St., Kansas City, Mo.

Outdoor Air Louver

Designed for curtain wall construction, an aluminum or steel louver can be adapted to any thickness of panel or sandwich wall or to a wood frame wall. Said to permit greater ease of installation of heating, ventilating and cooling units in schools where curtain wall construction is used, the louvers feature a gasket on the inside collar which provides a positive air seal on the thinnest panel walls. American Air Filler Co., Inc., Herman Nelson Unit Ventilator Products, Louisville 8, Ky.



Folding Door

The Ambassador folding door features the solidity of a solid core and the texture and flexibility of washable vinyl fabric. The door hangs straight and stationary when closed and is said to have no billows or rustles. It is available in a wide range of sizes: 2 ft 6 in., 2 ft 8 in., 3 ft and 4 ft wide by 6 ft 6 in. 6 ft 8 in. and 8 ft high. Grant Pulley & Hardware Corp., 31–85 Whitestone Pkwy., Flushing 54, N. Y.



Dehumidifier

The Imperial dehumidifier heats and circulates air in addition to removing water from the air. It is said to remove from 17 to 25 pints of water per day in a closed area measuring up to 10,000 cu ft. The heating unit delivers 3410 Btu per hr, and recirculation of air is rated at 165 cfm. The unit features a humidity dial which reads the humidity in the room and a four-position switch for circulate, dehumidify, heat and off litt weighs 65 lb and is housed in 20-gauge furniture steel. Mitchell Mfg. Co., 2525 No. Clybourn Ave., Chicago, Ill.

(More Products on page 260)

To Aid Your PLANNING---

American Sterilizer Company

Foremost designer and builder of Surgical Sterilizers, Tables and Lights for modern hospitals

Has Prepared

- 1. A 48-page Guide to Hospital Sterilizers and Technical Departments (A. I. A. File No. 35K)
- 2. An 8-page Guide to Surgical Lighting (A.I. A. File No. 31-F-28)

for inclusion in SWEET'S ARCHITECTURAL FILE

for 1956 Architects, engineers and hospital consultants will find these authoritative guides of sound professional value in preliminary planning for new or expanding hospitals.

We offer, in addition, a complete range of consulting and planning services through our 14 nation-wide branch offices and our Technical Sales Division in Erie. These services make available to you the most advanced treatments for such specialized units as Central Sterile Supply Departments and Solution, Milk Formula, Sub-sterilizing and Utility rooms. Further, they include the preparation of detailed plans, specifications and roughing-in drawings for these phases of your specific hospital project.

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A MERICAN STERILIZER



IST NATIONAL BANK . AMARILLO, TEXAS

marble

SELLS THE DESIGN
...THEN SELLS
THE BUILDING

FOR THE CLIENT, marble adds value to his buildings, reduces his cost of attracting tenants; ensures lustrous beauty that remains fresh as maintenances costs are reduced.

FOR THE TENANTS, marble helps to create an environment with that unmistakable air of success which lends prestige to every building, and every business in it.

FOR THE ARCHITECT, marble enhances the design with a beautiful simplicity that is always in perfect taste; protects it from deterioration through the enduring qualities of the material; emphasizes important elements of the design by acting as a perfect foil for other materials.



PRODUCT REPORTS

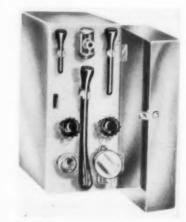
Insulating Foams

Two new thermosetting, self-curing polyisocyanate foams for insulating and reinforcing voids between structural members are designated Scolchfoam Brand Expansible Compounds Type A and Type 1. Design advantages of these foams include low weight factor; adhesion to many types of surfaces; curing without heating; freedom from fire hazard during application; and applicabil-

ity to irregular surface without necessity of cutting and fitting operations. Minnesola Mining and Mfg. Co., Adhesives and Coalings Div., 411 Piquelle Ave., Delroit 2, Mich.

Slip-retardant Floor Paint

A new anti-slip paint which has proved effective where oil, grease and water cause slippery surfaces employs a slipretardant agent that is non-metallic and sparkproof. The agent is incorporated in a high-quality enamel and is relatively soft, so that it can be applied by spray or brush. E. I. du Pont de Nemours & Co., Finishes Div., Wilmington, Del.



Bathroom Hygiene Appliance

Minute Hygiene is a compact unit 734 in. high, 3½ in. wide and 6 in. deep which connects permanently by means of standard copper tubing to hot and cold water outlets in any bathroom to supply a temperature- and volume-controlled water flow for feminine and internal hygiene. A light, flexible, plastic tube pulls out to any length up to 4 ft and provides water for any one of the heads which can be attached to it. It can also be used for shampoing, partial bathing, invalid and infant care. Minute Hygiene Corp., 50 Broad St., New York 4, N. Y.



Electronic Door Answering

Dorphone permits two-way communication between any central point in the house, such as the kitchen, and the front and rear doors. An "instantheating" electronic tube is said to allow two-way conversation to start within 2 sec after the set is turned on. The outside units are weatherproof. The master unit, finished in chrome, can be mounted in the kitchen wall or in any other part of the house. The unit can also be left on to listen to children or to detect outside and nighttime noises. Dorphone, Inc., 31 West 27th St., New York, N. Y. (More Products on page 262)



CUSTOM-BILT BY SOUTHERN

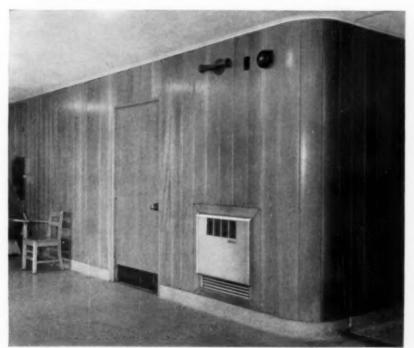
Food service equipment designed, engineered, fabricated and installed in any type operation, expertly fitted to available space. You can depend on thorough cooperation by your Southern Dealer, from initial analysis of your food service problems through complete installation and reliable maintenance for the years to come. Get expert help with your next kitchen equipment problem or layout—call your "Custom-Bilt by Southern" dealer, or write Southern Equipment Company, 4550 Gustine Ave., St. Louis 16, Missouri.





"CUSTOM-BILT BY SOUTHERN" DEALERS: ALABAMA, BIRMINGHAM—Vuican Equip. & Supply Co.; MOBILE Mobile Fisture Co. ARKANSAS, LITTLE ROCK—Krebs Bros. Supply Co. COLORADO, DENVER—Armholz Coffee & Supply Co. PLORIDA, DAYTONA BEACH—Ward Morgan Co.; JACKSONVILLE—W. H. Morgan Co.; MIAMI—J. Conkle Inc., ORLANDO—Turner-Hasek Co.; TAMPA—Food Service Equip. & Engr. Cor.; LILIMOIS, PORIA—Hertzei's Equip. Co.; INDIANA, EYANSVILLE—Weber Equip. Co.; INDIANAPOLIS, MARION—National China & Equip. Corp. 10WA, DES MOINES—Bolton & Nay. KANSAS, WICHITA—Armholz Caffee & Supply Co. KENTUCKY, LEXINGTON—Heilbron—Matthews Co. LOUISIANA, NEW ORLEANS—J. S. Waterman Co., Inc.; SHREVEPORT—Buckelew Holwe. Co. MICHIGAN. BAY CITY—Kirchman Bros. Co.; DETROIT—A. J. Marshall Co. MINNISOTA, MINNEAPOLIS—Aslesen Co. MISSOURI, KANSAS CITY—Geneuwood's Inc. MONTAMA. BILLINGS—Northwest Fixture Co. MBRASKA, ORAHA—Buller Fixture Co. MORTH DAKOTA, FARCO—Farge Food & Equip. Co. OMIO, CINCINNATI—M. Lauber & Co.; CLEVELAND—S. S. Kemp Co.; COLUMBUS—General Hotel Supply; TOLEDO—Rowland Equip. Co.; YOUNGSTOWN—W. C. Zabel Co. OKLANDMA, TULSA—Goodner Van Co. PINNISTLVANIA, ERIE—A. F. Schultz Co. SOUTH CAROLINA, EREE—Hood Equipment Co.; TENNISSES, CHAITANOGA—Mountain City Stove Co.; KNOXVILLE—E. Carleton Scruges; MEMPHIS—House-Bond Co.; NASHVILLE—MCKAPULE.—E. CAREDON CORPUS CHRISTI—Southwestern Hotel Supply, Inc.; EL PASO—EI Paso Hotel Supply Co.; SAN ANTONIO—Southwestern Hotel Supply, Inc. UTAM, SALT LAKE CITY—RESEARCH SERVICE—E. C. VIRGINIA, RICHMOND Excised & Weilman Co. WEST VIRGINIA, CLARKSBURG—Parson-Souders Co. WISCONSIN, MILWAUKEE—S. J. Casper Co.

It's easy to give large rooms and entryways that Warm welcome



Type BF cabinet units, equipped with plenum bases and partially recessed in wall, maintain comfort in the hallways of this large midwestern elementary school.



Recessed in the counter, a Type BF keeps out cold air when door opens.



Using ducts, cabinet units heat adjacent rooms as well as auditorium,

The answer... The Cabinet Units

For that lasting "warm-welcome" first impression—in new buildings or remodeling jobs—there's nothing like Modine Cabinet Units for performance, styling, versatility. Five smartly-designed models—120 to 640 Edr—offer an unmatched variety of installation arrangements and mounting possibilities for quiet, efficient, economical heat distribution.

Some can be used for steam or hot water heating . . . others heat with hot water . . . cool with chilled water. They can be installed upright or inverted . . . fully exposed, recessed or concealed . . . on walls, floors or ceilings. All can be used with or without ducts. What's more, with inexpensive accessories, Modine Cabinet

Units can be adapted to introduce, filter, heat and distribute fresh outside air for ventilation. Above all, they're economical—cost far less to install than individual unit ventilators or air conditioners.

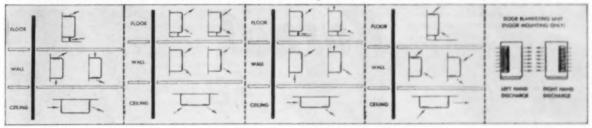
See the Modine representative listed in you classified phone book. Or write Modine Mfg. Co., 1510 DeKoven Ave., Racine, Wis., for Bulletin 552.



In Canada Sarco, Ltd., Toronto

5.1315

Choose from over 20 variations to match your individual room requirements



PRODUCT REPORTS

Asphalt Aluminum Coating

Ore-Ite is a protective coating for roofs. siding and foundations and on concrete or cinder block walls. It contains a special pigment in the form of tiny aluminum flakes which float themselves into parallel layers 5 to 10 deep with the vehicle between each layer. The result is said to be a waterproof, almost continuous overlapping metal barrier that reflects the sun's heat and is unaffected by the elements. The asphalt base allows it to expand or contract without cracking. Available in gold, silver, copper, pink, blue and coral. Duncan-Stewart Industries, Ltd., 715 Fifth Ave., New York, N. Y.

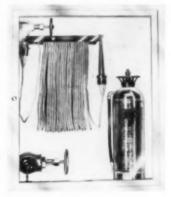
Carpets

Developed in response to specialized commercial needs, a newly expanded contract program presents 36 new Wilton qualities as well as a complete contract group of Axminster, Velvet and Tufted carpets. Stock-dyed yarns in 32 shades offer custom color scheming for all designs in the line. The Magee Carpel Co., Bloomsburg, Pa.



Electronic Oven

The G-E electronic oven performs three functions. It can cook with electronic waves in a cool oven in one-eighth to one-half standard time. It can bake and broil conventionally. Or it can perform both functions at once. Three controls operate the oven: one knob for various microwave power levels, a second for bake, broil or timed cooking and a third for oven cooking times. A rotating antenna at the floor of the oven distributes the microwave power. General Electric Co., Range and Water Heater Dept., Louisville 1, Ky.



Interior Fire Hose Cabinets

Aluminum fire hose cabinets are available in all standard sizes and in four different door styles: full glass panel, duo-panel, break glass panel and institutional panel. The door and frame are of heavy-gauge extruded aluminum, requiring no painting or polishing. All components are available in standard finishes and in chrome plate. Seco Engineering and Mfg., Inc., 1300 West Fort St., Detroit 26, Mich.

(More Products on page 266)

Waterproofing approach walls Patapsco Tunnel between Baltimore and Brooklyn, Md. Waterproofing by Anchor Waterproofing Corp., New York City and Railroad Waterproofing Corp., Lynbrook, N. Y. joint venture,



"Karnak completely waterproof ... never known to deteriorate.

That's what George Knight, superintendent of waterproofing for Patapsco Tunnel, says. He adds, "Karnak waterproofing mesh is one of the easiest-to-handle waterproofing materials . . . light-weight, durable and long-lasting . . . I've never known it to deteriorate, crack, or fail to do the job.

Karnak is the open-mesh, asphaltsaturated cotton cloth that's layered on the job with alternate moppings of highly refined, ductile asphalt. The open mesh allows the mopping asphalt to penetrate and interlock the layers, providing a firm membrane that maintains water proofing through the life of the structure. Karnak fabric is also available in tar and pitch saturation.

Karnak has met tough waterproofing requirements for over 30 years on dams, tunnels, bridges, swimming pools, viaducts and building foundations. Specify Karnak on your next waterproofing job. Manufactured by Lewis Asphalt Engineering Corp., 30 Church Street, New York 7, N. Y. Dept. 112.

C L.A.E. Corp.





... for a touch of Glamour that lasts and lasts!



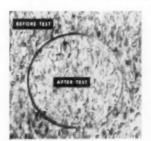
Young Miss Department of Snellenburgs of Philadelphia—one of two large areas floored with 1/4" "Sequin" linoleum in a big store modernization program

NEW, EXCLUSIVE Gold Seal SEQUIN® 1/8" INLAID LINOLEUM

Now, with new 1/s" "Sequin" linoleum, you can offer commercial clients a truly luxurious, high styled heavyduty floor. Here is rich, beautiful coloring . . . a terrazo type design that fairly scintillates before the eye . . . excellent resilience—for exceptional quiet and comfort underfoot. Seven decorator colors provide ample selection for matching any decor.

And new "Sequin" is as rugged and easy to maintain as it is beautiful! Colors are inlaid clear through to the backing. Its satin-smooth surface seals out dirt, resists

Abrasive Wheel Test proves "Sequin" will "look like new" through long service life!



The circular "After Test" area is the result of applying the abrasive wheel to the "Sequin" sample. See how it has worn well through the linoleum— and yet the pottern is still there, as clear and sharp as ever! Compare it with the "Before Test" area. You can't tell the difference! Write to Architects Service Department, Gold Seel Floors and Walls, Congoleum-Nairn Inc., Kearny, N. J., for further information.

stains . . . makes cleaning easy! Grease, grime and spills just wipe off with a damp cloth! And "Sequin" needs less buffing—for scuffs "disappear" in the design. See new Gold Seal 1/8" "Sequin" linoleum at your Gold Seal Dealer.

SPECIFICATIONS: 6-ft. wide yard goods. 1/2" gauge, burlap backed. Install over suspended wood or concrete subfloors. Available in: Grey mix, Grey, Green, Dark Brown, White Multi, Taupe, Beige. Also made in standard gauge for residential use—in 16 colors.

FOR HOME OR BUSINESS:

INLAID BY THE YARD—Linoleum · Nairon* Standard · Nairontop*
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Vinylbest · Linoleum · Ranchtile* Linoleum · Asphalt
PRINTED FLOOR AND WALL COVERINGS—Congoleum* and Congowall*
RUGS AND BROADLOOM—LoomWeve*





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STONE and STAINLESS STEEL

Happy Lifetime Combination

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- "AL Stainless Steels for Building"—12 pages on stainless grades, properties, forms, finishes, standard "specs," uses and advantages.
- 2 "Stainless Steels for Store Fronts and Building Entrances"—40 pages of valuable data on examples and details. A1A File No. 26D.
- 3 "Stainless Steel Curtain Walls"—A 24-page progress report on methods, AIA File No. 15-H-1.

Write for Details
Address Dept. R-79.

Here's an intriguing entrance design for a recently-built midwestern structure. Stone and stainless steel and glass . . . a planter that continues inside . . . two sweeping curves in opposed planes.

If there's any other material that can match the ageless, everlasting qualities of stone, it's stainless steel. Use it for its hardy, perennial beauty, that neither smoke, fumes nor weather can impair. Use it for its remarkable strength, greatest of all the structural metals. But above all.

use stainless steel because it wears so well and lasts so long that it's actually the most economical metal you *can* use . . . the least expensive in the long run.

Keep it in mind, too, that A-L Stainless Steel is versatile—you can employ it in your structures in everything from building hardware to an entire cuttain wall design. ● If we can help you with any data of engineering assistance, call on us. Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.

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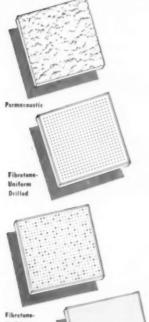
Warehouse stocks carried by all Ryerson Steel plants





The Johns-Manville Permacoustic ceiling in the Penn Fruit Co. supermarket in Cynwood, Pa., is handsome, acoustically functional and inexpensive,

Sales soar when Johns-Manville Acoustical Materials Quiet busy stores



Beillet

Business and industry depend on modern materials to achieve maximum efficiency. That's why practically all new building and modernization specifications include acoustical ceilings to reduce disturbing noise.

Johns-Manville offers a complete choice of highly efficient sound absorbing materials for every acoustical need.

- J-M Permacoustic[®] Units—combine maximum acoustical efficiency with architectural beauty. Has attractive fissured surface. Made of mineral wool, Permacoustic meets all building code fire-safety requirements.
- J-M Fibretone® Units provide high acoustical efficiency at modest cost. Hundreds of small holes, drilled in a Uniform or Variety pattern, act as "noise

traps." Fibretone has a white paint finish. Available with flame-resistant finish.

- J-M Sanacoustic[®] Units—perforated metal panels backed with a fireproof, highly sound-absorbent element. Noncombustible and sanitary. The white bakedenamel finish is easy to keep clean, and may be repainted.
- J-M Transite® Acoustical Panels perforated asbestos-cement facings backed with a mineral wool sound absorbing element. Suitable in areas with high humidity (dishwashing rooms, kitchens, swimming pools, etc.).

Send for your free copy of the new brochure entitled "Sound Control." Write Johns-Manville, Box 158, Department AR, New York 16, New York. In Canada, write 565 Lakeshore Road East, Port Credit, Ontario.

See "MEET THE PRESS" on NBC-TV, sponsored alternate Sundays by Johns-Manville

Johns-Manville

45 years of leadership in the manufacture of acoustical materials



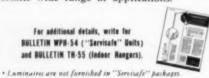
THOMPSON POLE UNITS AND HANGERS

It's easy to maintain inaccessible luminaires at peak efficiency with THOMPSON equipment. All units feature a patented mechanism that eliminates climbing and electrical hazards...makes servicing a simple one-man job.

"SERVISAFE" POLE UNITS are supplied as complete packages ready for wiring and erecting (*). Single or double-arm models and variety of new steel and aluminum poles can be furnished. BRACKET UNITS for wall and wood pole installations also are available.

THOMPSON HANGERS . . . for high-bay indoor luminaires . . . bring lights down to floor level. Variety of models and accessories permits wide range of applications.

> For additional details, write for BULLETIN WPN-54 ("Servisafe" Units) and BULLETIM TH-55 (Indoor Hangers).



AS EASY AS IT LOOKS School custodian relamps and cleans luminaires the Thompson way . . . with both feet on the ground.



1199 POWER AVE., CLEVELAND 14, OHIO

PRODUCT REPORTS

Silicone Cement Base Paint

Silitex, S.F. (silicone formulation), applicable to any porous masonry surface, such as brick, cinder block, stucco and cement plaster, is said to penetrate into the microscopic pores of even the most porous masonry, shedding water with a minimum of absorption yet allowing the masonry to breathe. It is also said to be durable and will not peel or crack under severe weather conditions. Available in white, gray, green, rose and buff. Siliphane Corp., 10 East 40th St., New York.



Arched Acoustic Insulation Pad

A new arched acoustic insulation pad for use in lightweight, cellular steel Fenestra acoustic panels remains free from the inside face of the perforated panels so that painting and washing will not impair its acoustical efficiency, which is said to range up to 80 per cent. The pads, made of long, thin glass fibers and available in lengths of 4 ft, are pliable yet always snap back into place. Detroit Steel Products Co., 3113 Griffin St., Detroit, Mich.



Power Roof Ventilator

The Type LSO ventilator, available in five sizes with low- and high-speed models, has a low silhouette. It features unit construction, electrical connections in mounting saddle on the outside of the housing, and statically and dynamically balanced fan wheel. Shutters of gravity and motor-operated types with interconnected blades to eliminate backdraft are available as accessories. Ilg Electric Ventilating Co., 2850 N. Pulaski Rd., Chicago 41. Ill.

(More Products on page 270)

"Reinforcing rods were set and concrete poured almost the day after engineering details were available," cites Mr. M. Lapidus, architect for Miami Beach's luxurious new Eden Roc Hotel. In just 13 weeks all 14 floors of the 401-room structure were up . . . with reinforced concrete. The result: incalculable savings in time and extra hotel revenue. The design flexibility of the medium is shown "in the interesting form of the balconies, various projections and overhangs which could only have been achieved with reinforced concrete," further states Mr. Lapidus. On important projects from coast to coast, reinforced concrete is providing better structures for less money. It is inherently firesafe, and highly resistant to wind, shock, and quake. On your next job, design for reinforced concrete.

14 floors in 13 weeks with

"... provides incalculable savings in time and in extra hotel revenue"

SAYS MR. M. LAPIDUS, ARCHITECT for the elegant Eden Roc Hotel, Miami Beach, Florida

HIIIIIIII

Eden Roc

Hotel, Miami Beach Harry Mufson, President

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... 7 weeks later

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Honeywell can help assure



First Security Bank building, Salt Lake City, Utab. Designed by Bank Building Corporation of America.

Associate architect: Slack W. Winburn. Mechanical and electrical engineer: Ferris & Hamig.

General contractor: Utab Construction Company. Mechanical contractor: Larsen & Company,

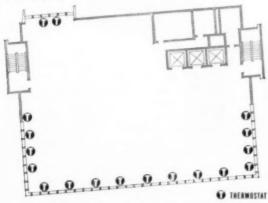
ideal indoor weather for your clients



Exposure is no problem with a Honeywell Customized Temperature control installation. Accuracy and quick response of Honeywell thermostats keep comfort constant despite changing conditions of wind and sun—even in offices like this, where glass is used freely.



Use of space helps determine control needs. Number of people in the bank varies at different times; so does the type of work done. Strategically placed Honeywell thermostats call for exact amounts of heating, cooling or ventilating needed under all conditions.



Thermostats are placed to give individual control to exterior offices that will be partitioned according to tenants needs. Interior office spaces will be controlled by separate zone thermostats.

Honeywell Customized Temperature Control compensates for exposure, weather changes and office layout

In the best modern construction, indoor weather is planned with as much care as the building itself.

When this happens—and it happens often—you're likely to find the building has a Honeywell Customized Temperature Control installation.

That's the case in the new quarters of Salt Lake City's First Security Bank. Here, Honeywell provides flexible temperature control to meet the needs of owners and upper-floor office tenants. At the same time the ground-floor banking area is supplied with indoor weather that's ideal for clients, customers and employees. Efficient working conditions are maintained throughout the air-conditioned building.

That's what "customized" means—a control installation fitted to the needs of the building and its occupants, in heating, cooling, ventilating and humidity control.

True customized control can best be provided by Honeywell. Because only Honeywell manufactures all three types of controls—pneumatic, electric and electronic—which permits Honeywell to make truly objective recommendations.

Whether it's an office building, factory, bank or store—any building of any size, new or existing—Honeywell Customized Temperature Control can help solve your client's problems of heating, ventilating, air conditioning and industrial control.

For full details on Honeywell Customized Temperature Control, and the economical Periodic Maintenance Plan, call your local Honeywell office. Or write Honeywell, Dept. AR-7-90, Minneapolis 8, Minn.

Honeywell

Customized Temperature Control

112 offices across the nation



American National Bank Austin, Texas

Photograph by Dewey G. Mears, Austin Architects: Kuehne, Brooks & Barr

Always Fair Weather

behind these "always closed" doors!

Summer heat stops at the street, sealed out by revolving doors that are "always open" yet "always closed" — the only doors that keep conditioned air inside, in the "profit zone" — however heavy the in-and-out traffic. Savings on cooling costs (and heating costs too!) run 25% and more. And a revolving door entrance offers many more cost-saving, money-making advantages that you should know about . . . now. Available with manual or automatic power operation.



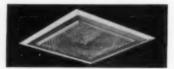
See Sweet's Architectural File No. 16f Or Classified Section of Your Telephone Directory

REVOLVING DOOR ENTRANCE DIVISION INTERNATIONAL STEEL COMPANY 2100 EDGAR STREET • EVANSVILLE 7, IND.

PRODUCT REPORTS

Pearlescent Cast Acrylic Sheet

Natural mother-of-pearl is diffused through acrylic sheet by a special casting process to produce a sheet of high luster and color penetration which can be used for decorative architectural effects. The cast pearl sheet is available in more than 20 jewelled and metallic colors, in thicknesses from 0.080 to 0.250 in. and in sheet sizes ranging from 12 by 48 in. to 36 by 48 in. Cadillac Plastic & Chemical Co., 15111 Second Ave., Detroit 3, Mich.



Store Lighting Lens

Amcolenses, designed for installation in stores which depend on color and lighting effect for inducing customers to buy, are made of clear glass prisms which are said to provide extremely flattering light. The lenses are installed in conjunction with Elliptisquare frames. The Art Melal Co., Cleveland 3, Ohio.

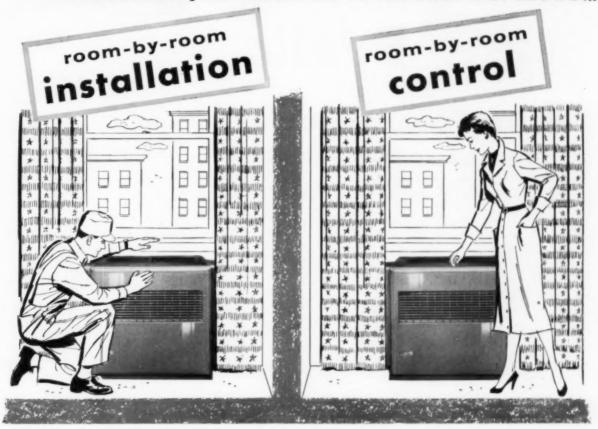


Loudspeaker Baffles

Architectural loudspeaker baffles featuring wide angle dispersion by means of rear horn loading are produced in a range of models for recessed, surface, suspension, wall and ceiling installation. All models are available in a variety of colors and are made for all standard-sized loudspeakers. Other models include acoustical tile baffles for walls and ceiling, a 15-deg offset controlled directional wall baffle and bidirectional baffles for corridors. Soundolier, Inc., P.O. Box 3848, St. Louis, Mo.

(More Products on page 272)

a recessed year-round air conditioner that allows...



ONLY Mueller Climatrol

gives you both for commercial and institutional buildings

HERE'S the unit that lowers all barriers to discarding half-year comfort in favor of year-round, controlled air conditioning. New recessed air conditioners by Mueller Climatrol can be installed on a budgeted program, utilizing existing central steam or hot water facilities. For cooling, each unit is equipped with its own refrigeration cycle.

Practical cost, too - only about half as much to install as central cooling alone! And there's also a 20% operating saving, as compared with a complete

Mueller Climatrol has literature for you with full information. Write today,







NEEDS NO WATER FOR COOLING.



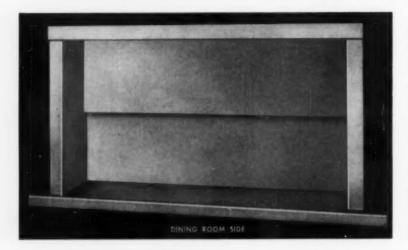
FLUSH WITH OUTSIDE OF BUILD

Mueller Climatrol

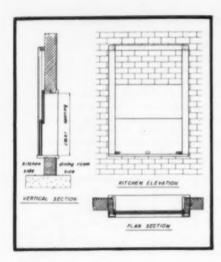
DEPT. 76, 2058 W. OKLAHOMA AVENUE MILWAUKEE 15, WISCONSIN

New Peelle

Telco Pass Window



for low overhead conditions



The Peelle Telco Pass Window is primarily designed for low overhead conditions and, like the Standard Peelle Pass Window, consists of a completely assembled unit with steel guides and integral frame and trim. Two important applications are between kitchen and dining room and in baggage check room areas.

Panel construction consists of two vertical rising panels so arranged that both leaves shall arrive at the fully opened or closed position simultaneously.

Units can be furnished in plain or stainless steel. When stainless steel is desired, frames, panels, rails and weight box enclosures will all be made of this material.

Send for further details and specifications

THE PEELLE COMPANY

47 STEWART AVENUE, BROOKLYN 37, N. Y.

Offices in Principal Cities

PEELLE MOTORSTAIRS . FREIGHT ELEVATOR DOORS . DUMBWAITER DOORS . INDUSTRIAL DOORS



PRODUCT REPORTS

Dual Purpose Water Heaters

Additions to the Imperial CB135 line have controls which prevent the unit from having to carry the house heating load and domestic hot water supply at the same time. Designed for basement or utility room installation, they are completely assembled with jackets, all controls, piping, fittings, valves and wiring. The 600 Series measures 27 in. deep by 401/2 in. high by 20 in. wide. The 900 Series measures 30 in. deep, 461/2 in. high and 20 in. wide. The Pale Co., Darby, Pa.



Foldaway Drawing Board

Designed to solve space problems, this unit pulls out of a kneespace drawer when needed and folds away into the drawer when not in use. When folded in the drawer, there is still space for pencils, rulers and other drafting equipment. Available in mist green, silver gray and tan, it comes in two sizes: 20 by 15 in. and 26 by 21 in. Arnot-Jameslown Div., Aetna Steel Products Corp., 730 Fifth Ave., New York.



Lightweight Luminaire

The Realite is a new twin-tube, ceilingattached fluorescent luminaire with a total prismatic enclosure called Prismalume. This enclosure controls light in all directions, providing a high level of downward light and an indirect component along the ceiling, while eliminating glare from the direct viewing zone. Lightweight and shatterfree, it is said to possess excellent dimensional stability. Each 4-ft hinged section accommodates two lamps. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.

(More Products on page 276)



Photo by Hedrich-Blessing, Furniture by M. Singer & Sons

Beautiful pegged oak floor at a modest price

There's something about Bruce Ranch
Plank that "does things" for even the most
modern interior. Perhaps it's the contrasting traditional flavor, or the everinteresting pattern of random oak
strips with walnut pegs. Whatever
the reason, Bruce Ranch Plank is
appropriate anywhere. It has the

charm and appeal of an expensive randomwidth floor, yet is low in cost. The pegs and the beautiful, durable Decorator Finish are factory applied . . . so there's no sanding or finishing on the job. Installation is simple, like regular strip flooring. Write for color booklet. See our catalog in Sweet's.

E. L. BRUCE CO., MEMPHIS I, TENN.



Bruce Ranch Plank

Hardwood Floor

Heating?

Cooling?

Air Conditioning?

Process?

ASK THE AEROFIN MAN About <u>Practical</u> Heat Exchange

There is a competent Aerofin heat-transfer engineer near you—qualified by intensive training and long experience to find the right answer to your own particular heat-exchange problem—and backed by the research and production facilities of the pioneers in light-weight extended surface.

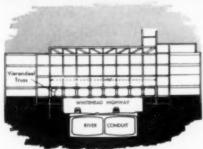
Ask the Aerofin Man.

Aerofin is sold only by manufacturers of nationally advertised fan system apparatus. List on request. AEROFIN CORPORATION

101 Greenway Ave., Syracuse 1, N. Y.

ON THE NEWS FRONT WITH STRUCTURAL STEEL





Largest Vierendeel Trusses in U.S.

Two of the five Vierendeel trusses used in this new public library at Hartford, Conn., are believed to be the largest in the United States. Vierendeel trusses were selected for the construction of the library because the large panels without diagonal supports provide open spaces for additional basement storage of books. Also unusual is the library's site. City officials wanted the library near the center of the city, and the building was constructed to span the six-lane Whitehead Highway (see inset) which is over the Park River, the river flowing beneath the highway through a twin conduit. Bethlehem supplied a substantial tonnage of steel for the new library.

Architect: Schutz and Goodwin, Hartford; Supervising Architect for City of Hartford: Daniel J. Tasillo. General Contractor: Wadhams & May Co., Hartford; Structural Engineer: R. W. Loomis, Windsor, Conn.; Structural Fabricator and Erector: Lehigh Structural Steel Co., Allentown, Pa.



Shakespeare's Theater Re-Created in Steel

At Stratford, Conn., is a new steel-framed recreation of old London's Globe Theater, the American Shakespeare Festival and Academy. The new theater, framework of which contains 400 tons of Bethlehem Structural Shapes, is octagonal, and has a 92-ft wide auditorium, about the same as the original Globe. The capacity is also comparable; the original Globe accommodated 2000, including 600 standees; the new theater seats 1500. Exterior is teakwood from French Guiana.

Architect: Edwin L. Howard, Westport, Conn.; Structural Engineer: W. W. Chapin, New York; Steel Fabricator and Erector: Berlin Construction Company, Inc., Berlin, Conn.

BETHLEHEM STEEL COMPANY BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation, Export Distributor; Bethlehem Steel Export Corporation

BETHLEHEM STEEL



new

allmark Cards

'wall of windows" building glazed and sealed with



PRESSTITE

No. 162 Tape

he structural design of this handsome, well-lighted "house of glass" (home of famous Hallmark Cards) called for lots of glazing and sealing. Structural movement demanded a permanently elastic sealer that never hardens, chips or slumps. Presstite No. 162 Tape was used throughout. Windows were glazed on the site (see drawing below). Porcelain panels were similarly sealed at the manufacturer's plant and shipped

No. 162 Tape remains pliable and adhesive, always assuring a tight, easy-to-apply seal against all kinds of weather . . . and is just one of many Presstite sealing and caulking compounds for window glazing, general caulking, expansion joints and curtain wall construction.

WRITE for working samples, literature, technical data.

to the site.



A Division of AMERICAN-MARIETTA COMPANY 3748 CHOUTEAU AVENUE, ST. LOUIS 10, MISSOURI

PRODUCT REPORTS

Resilient Floor Tile

Two new colors have been added to the Azphlex vinylized tile line: PK-751 Lisbon Cork and PK-752 Dakar Cork, both in 1/32 in. thickness, 9 by 9 in. Two colors have also been added to the Azrock asphalt tile line: B-253 Dazzle, a reddish brown background with multicolored chips, and D-561 Polkadot, a white background with gray and black chips, both 9 by 9 in. and 1/8 in. thick. Uvalde Rock Asphalt Co., 560 Frost Bank Bldg., San Antonio, Tex.



Vertical Groove Siding

Ridgegroove siding, designed for exterior applications, combines vertical grooves 4 in. apart, 3/8 in. wide and 1/10 in. deep, and a linear texture. It has a shiplap joint treatment which forms the groove where the panels join. Basically Tempered Presdwood, it can be painted or stained and can also be used inside for paneled walls. The 4-ftwide panels come in lengths of 6, 7, 8, 12 and 16 ft. Masonite Corp., 111 W. Washington St., Chicago 2.



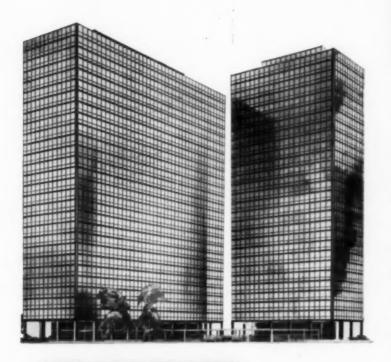
Bathroom Grasping Bars are adaptable for installation in either right or left placement, at tub, shower, bath or toilet. For use in residences as well as hospitals, the bars are made of heavyduty tubular steel with an easily cleaned chrome finish. Safely Bath Rail, Inc., 2519 Wyoming Ave., Dearborn 2, Mich.

(More Products on page 280)



sliding door hardware

a <u>one</u>-time cost... <u>not</u> a constant expense!





In today's large apartment buildings, where service callbacks would be costly, architects and contractors alike depend on trouble-free Sterling Sliding Door Hardware. The superior design and construction of high-quality Sterling Hardware eliminates constant replacements and adjustments... provides smooth, quiet door performance for the life of the building. This, plus the time and work saved during the installation, are sound reasons why Sterling Sliding Door Hardware should be included in your plans.

"900 Esplanade Apartments" Lake Shore Drive Chicago, Illinois Owners and Builders:

Owners and Builders: Herbert S. Greenwald and Samuel N. Katzin

Architects: Ludwig Mies van der Rohe; Friedman, Alschuler & Sincere

General Contractor: Summer Sollitt Company

Hardware Contractor: Clark & Barlow Hardware Company Send for our new 24-page catalog showing the most complete line of sliding door hardware and other builders' products or see our catalog in Sweet's Files.

John Sterling Corporation

Formerly Sterling Hardware Mfg. Co.

2345 West Nelson Street, Chicago 18, Illinois

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ECONOMICAL GYPSUM ROOF DECKS AID VERSATILE DESIGN THINKING

Adaptable, fire-protective system meets rigid performance requirements

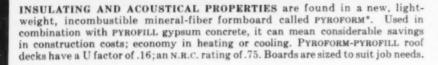
From Coast to Coast, U. S. G. Roof Deck Contractors are ready to apply the new materials and assemblies described here. Each of these competent, financially-responsible business organizations operates with a modern fleet of specialized equipment, skilled supervisors and crewmen to assure quality workmanship. For details on U. S. G. gypsum roof deck, see Sweet's Section $\frac{2}{Un}$.

UNITED STATES GYPSUM

the greatest name in building

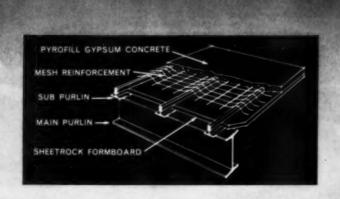








FIREPROOF ROOF DECK being applied here is PYROFILL* incombustible gypsum concrete, adaptable to flat, curved or pitched roofs; practically any design. PYROFILL is strong, durable; it pours in place over

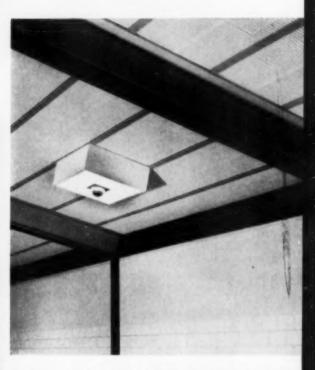




permanent formboards at low cost. A single crew can pour from 20,000 to 30,000 sq. ft. per day ready for roof covering; sets within an hour to carry normal loads. Fire insurance premiums are often reduced substantially, because PYROFILL Roof Decks fear no fire.

*T. M. Rog. U. S. Pat. Off,

Creative materials for creative architecture



FINISHED ACOUSTICAL CEILING is part of the roof deck construction when you specify USG® Acoustical Formboard, made of a durable wood-fiber insulation board. Underside is slotted and finished in white, forming a beautiful acoustical ceiling. N. R. C. rating is .65 for No. 4 Mounting; light reflectance is 78%.



For complete information on the products shown here, fill in this coupon and mail to United States Gypsum Company, Department AR-62, 300 West Adams Street, Chicago 6, Illinois.

PYROFILL		Gypsum
Roof Deck	R .	

PYROPORM Insulating Formboard

UsG Acoustical Formboard

Please have your Architecta' Serv-ice Representa-tive or Industrial Sales Engineer call on me

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(Please print)

TITLE_

FIRM_

ADDRESS___

CITY____STATE_

THE REAL LOW-DOWN

DOWNLIGHTING

Here are the facts... A Comparative Study of DOWNLIGHTING DEVICES

THE SKYLIK Silver-spotling

Provides these outstanding features



LAMP COST ...

Lamp replacement costs for most popular types of downlights using reflectorized lamps will approximate three times the cost of lamp replacements for Silver-spot and Silver-dot units.



POWER COST...

Since many of the commonly used downlight devices employ 150 watt lamps, the 100 watt Silver-spot or Silver-dot units will cost only two thirds as much to operate.



LIGHT OUTPUT...

Performances of downlights varies greatly with design and light distribution. In general Silver-spot and Silver-dot produce more effective footcandles within the designed beam. This increase in illumination averages about three times that afforded by other devices but in some cases exceeds five times the illumination within specified zonal limits.



THIS COMPLETE
REPORT ON
DOWNLIGHTING
DEVICES

yours for the asking



SILVER-SPOT



SILVER- DOT 113



SILVER-DOT 110

Proof of these facts is definitely established in a comprehensive study just completed. Charts of various types of downlighting devices are based on data taken from photometric tests conducted by Electrical Testing Laboratories, Inc., or from published photometric data. To obtain this report just write to . . .



PRODUCT REPORTS

Cement Admixture

Sonolard may be used in all types of concrete or mortar, except when pouring at low temperatures or where acceleration or high early strength is needed, to slow up the setting of concrete and mortar mixes and to allow more effective control of mixing, placing and finishing. It is said to produce higher compressive strength, reduced permeability, more homogeneous concrete, minimum shrinkage, and superior, denser finishes at reduced cost. L. Sonneborn Sons, Inc., Building Products Div., 404 Fourth Ave., New York 16.



Hands-free Telephone

This new telephone system has a microphone that is sensitive in all directions and can pick up conversation at ordinary voice levels from as far away as 20 ft. The voice of the party at the other end of the line is amplified and heard through a loudspeaker that is built into the instrument. On and Off buttons are located at the base of the instrument, and a signal light indicates that the microphone and loudspeaker are alive. A 12-ft cord permits the unit to be moved into other rooms. When privacy is desired, the conventional handset can be used. Stromberg-Carlson Co., Rochester 3, N. Y.



Multi-Level Library Desk

Combining the circulation desk with a 66-in.-long by 40-in.-high shelving unit gives the librarian storage shelves within arm's reach. Work tops are supplied in rubbed wood, linoleum or Micolor Formica. Two other new units—a "range-type" reference unit and Freeline table—are also available from John E. Sjöström Co., Inc., 1717 No. 10th St., Philadelphia 22, Pa.

(More Products on page 282)





ageless!

Smooth, easy-cleaning, decorative — uses for melamine laminate panels are multiplying fast!

Among the most decorative and durable of all plastic materials are the laminates made by fusing resin-impregnated paper into solid panels under high heat and pressure.

For many years these melamine laminates * have been a preferred surfacing for counters and work areas, as well as for fine furniture. Now their functional and ornamental qualities are being utilized for wainscoting, wall paneling, toilet partitions, doors, shower stalls, elevator cabs, push and kick plates, store and bank fixtures.

Easy-to-care-for melamine laminates require a minimum of maintenance - never need painting or finishing. The smooth surface washes clean with a damp cloth, and resists scratching, denting, chipping, cracking, burns and stains. It withstands heat up to 275° F. It is unharmed by

alcohol, most acids and alkalis or boiling water.

Building suppliers stock melamine laminates in a wide range of deeptones, pastels, mosaics, marbleized effects, wood grains and all-over designs. The panels are available in two thicknesses (1/10 inches and 1/16 inches), in widths from 30 inches to 48 inches, and in lengths up to 16 feet.

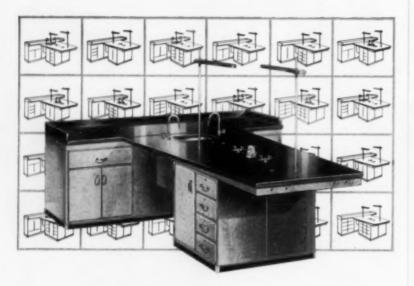
These sheets cut neatly with a saw, and cement permanently to smooth plaster walls (cured), gypsum lath, sheathing grade plywood and building blocks. Properly installed, melamine laminates do not swell or warp.

* Monsanto supplies melamine resins for decorative laminates sold under these trade names: Consoceld, Corlex, Decarlite, Farlite, Fiberesin, Lamin-Art, Micarta, Nevamar, Panelyte, Pionite, Plastilight, Railite, Resilyte, Richelain, Textolite.

Present and future applications of plastics in construction are under constant study by Monsanto's structural Plastics Engineering Group. You are invited to check them for expert technical counsel. Monsanto Chemical Company, Room 237, Springfield 2, Mass.



Hamilton Activity-Centered science tables
... with 90 work-and-storage combinations ...
solve tomorrow's classroom problems, today!



Before today's freshmen are seniors, classroom requirements will be critical. You can start to meet this problem now with Hamilton Activity-Centered tables, which permit science rooms to be used *every period* of *every day*, for laboratory, academic or home room activities.

These new Hamilton units offer so many advantages—largest available work surface . . . up to 40 locked drawers . . . unique, tapered "traffic-flow" design . . . low-cost roughing-in option . . . Northern Hard Maple construction in 6 distinctive finishes . . . 90 different work-and-storage combinations!

There's a lot more we'd like you to know about Hamilton Activity-Centered science tables—please write today.



Hamilton

LABORATORY EQUIPMENT

HAMILTON MANUFACTURING COMPANY TWO RIVERS, WISCONSIN

PRODUCT REPORTS

White House Paint

A new "75" white house paint, made with a higher content of active lead oxide, is said to get whiter the longer it remains on an exterior surface. The blister-proof quality has been increased by more pigment concentration without loss of gloss. There is also said to be 25 per cent more hiding power in the new paint. The O'Brien Corp., South Bend, Ind.



Posture-designed Toilet

The Neo-Health toilet bowl has a special posture design and is equipped with a built-in cleansing spray. Depressing a handle at the rear of the bowl releases water from a compartmented tank in a gentle spray action. The manufacturer expects that the fixture will find use not only in the home but also in hospitals for patients whose physical condition makes regular bathing inadvisable or difficult. Available in colors. American Radiator & Standard Sanitary Corp., Plumbing and Heating Div., Pittsburgh 30, Pa.



Thin Light Troffers

Three Thin-Lile Troffers, designed to save space for air conditioning ducts, piping, etc., require only 2½ in. above the ceiling line. Three types of shielding and diffusing media are offered: a one-piece polystyrene louver panel, a Corning No. 70 low-brightness flat glass lens and a formed acrylic diffuser ½ in. thick. All three are 48 in. long and equipped with two 430-ma, rapid-start, 4-ft lamps. Lighting Products, Inc., Highland Park, Ill.

(More Products on page 286)



*V
thin marble tiles

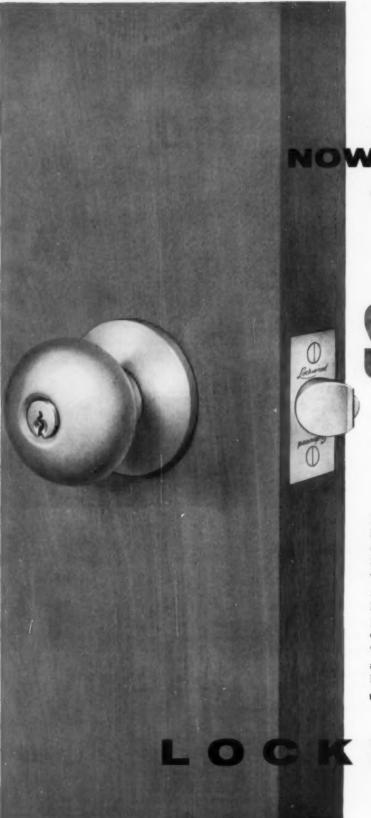
Thin, genuine marble tiles – beautiful and appropriate in bathroom and kitchen, living room, bedroom and foyer, for wall or floor. So much more distinction and durability for so little additional cost.

Available through leading tile contractors and dealers. Write now for brochure showing color range and uses for magnificent Markwa.

"MARKWA — the marble that is lightweight because it is thin."



VERMONT MARBLE COMPANY · PROCTOR, VERMONT



of heavy duty
locksets
with

STAINLESS STEEL trim

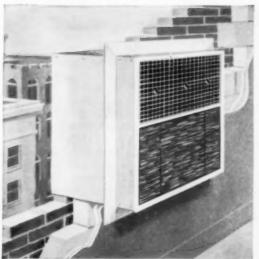
Beauty that's more than skin deep—everlasting and care-free . . . Lockwood heavy dury locksets in Darby Design with lustrous STAINLESS STEEL trim.

Tough, strong and corrosion-resistant, this matchless new trim is now produced by Lockwood in both dull satin and highly polished *permanent* finishes to blend with other stainless steel accessories.

When you're looking for quality appearance and quality performance, look to Lockwood Darby Design with STAINLESS STEEL trim.

LOCKWOOD HARDWARE MANUFACTURING CO. Fitchburg, Mass.

KWOOD





At 239 East 79th Street, as in two other apartment buildings by H. R. H. Construction Corp., every bedroom and living room will have a new General Electric Thinline.

New York contractor installs 1,484 G-E Thinline Room Air Conditioners

(through the wall, flush with outside!)

"The new General Electric *Thinline* was perfect for the installation I wanted—through the wall without overhang. It's compact—takes up only two-thirds as much space, but still has the powerful cooling and exhaust capacities of previous corresponding models.

One of the biggest reasons I chose the *Thinline* is the General Electric name. People have faith in it. So do I. General Electric products are way ahead of the field, soundly engineered and backed by good service."—ALAN P. HOROWITZ, H. R. H. Construction Corp., New York, N. Y.

Advantages of the General Electric Thinline:

1. It fits almost anywhere—through the wall or in any kind of window. 2. It's compact—only 16½ from front to back, takes up ½ less space. 3. It's economical—the ½-hp, model uses only 7½ amperes: and area-by-area control means no waste in unused rooms. 4. It's easy to install—no plumbing, ductwork or expensive wiring needed. 5. It's available in ½, ¼ and one horsepower units, all in same size cabinet. 6. It's fully guaranteed in writing by the General Electric Company, Louisville 1, Kentucky.

Progress Is Our Most Important Product

GENERAL 🍪 ELECTRIC

Look how easy it is to install the new General Electric Thinline through the wall:



Build the sleeve and frame into the wall during construction. The opening for the sleeve is about 27" wide by 22" high.



Slide the G-E Thinline into the sleeve. Four screws hold it in place, give you a quick and weathertight installation.



Simple but decorative wood trim frame adds a final touch. Notice how little this 16½" unit projects into the room.



Flush on the outside, the G-E Thinline's aluminum grille will keep its smart good looks for years.

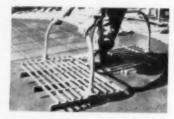
WINDOW WASHING an inside job with Available in Double, Double Hung and Double Horizontal Sliding - All Sash Double for the ultimate in weather protection. **Matching Picture Windows and combinations** of above for Ribbon Fenestration. Fleetlite Windows have all the features needed in modern construction including complete removal from the inside of the building for simple easy low cost cleaning. Fleetlite Windows are made of the finest extruded aluminum (63ST-5). Prime sash, storm sash and screens (if required) are integral parts of the window assembly. Stops Wind, Dust, Noise, Heat, Cold - yet opens instantly - easily. Mohair weather stripping and snug interlocking double sash seal out dirt. 11/4" air space between inside and outside sash insulates for economical heating, air conditioning and sound reduction. Let us send complete information on this modern window that requires no painting or puttying, ever. Clip and mail the coupon below.

wood or steel floors without mixing, shoveling, tamping or rolling. Manufactured in standard black sheets 2 by 3 ft and 1/4 in. thick, they are laid side by side and cemented down with a special adhesive. Nu-Flor surfaces are reputed to withstand the heaviest industrial loads. The Monroe Co., Inc.,

10703 Ouebec Are., Cleveland 6, Ohio.

PRODUCT REPORTS

Ready-to-Lay Flooring Nu-Flor consists of hard, durable, preformed sheets, said to outlast concrete. which can be applied over old concrete,



Concrete Brick and Tile Patterns

Brick and tile patterns can be stamped into concrete with a new tool. Wet concrete is dusted with powdered cement coloring to attain the correct color effect, and then the pattern is stamped to a depth of 1 in, as shown in the illustration above. A number of variations in color and texture are possible. Produced by Ornamented Concrete, Inc., of Carmel, Calif., the tools are distributed by Burbank-Wasserman Co., 566 Commercial St., San Francisco 11.



Submersible Sump Pump

The Drain-Pak, engineered for use wherever a totally submerged sump pump may be required, is equipped with a 1/3-hp, 60-cycle, 110-volt motor with automatic overload protection and an 11-ft rubber-covered power cord. Two models are offered; one is all bronze and the other is a cast-iron, cadmiumplated, bronze-fitted pump. Lancaster Pump and Mfg. Co., Inc., Lancaster, Pa.

(More Products on page 288)

- **Detailed Literature** List of Standard Sizes Typical Installation Data
- Have Fleetlite representative call

State

Name Address

FLEET OF AMERICA, INC., 2029 Walden Avenue, Buffalo 25, N. Y



Polyken protective coating beats corrosion in this sulphuric acid plant

They're using durable Polyken Tape to protect electrical conduit in and around the cooling tower

The Switch Box and Controller Station you see here is located at the cooling tower of Gulf Oil's Port Arthur, Texas, sulphuric acid plant. As you know, where there's sulphuric acid, there's a big need for protection against corrosion.

Formerly, they used paint on the electrical conduit. That lasted only

three or four months.

But Polyken Protective Coating has kept the conduit in excellent condition since 1953. The tape itself is in excellent condition, too.

Polyken Tape gives dependable protection because it's manufactured from controlled raw materials under controlled conditions. Its tough polyethylene backing offers high electrical insulation resistance, high resistance to corrosive action.

Just as important, Polyken Protective Tape Coatings go on right from the roll. The thick adhesive mass provides strong adhesion to cylindrical surfaces and a self-seal at the lap. That means faster, more effective, lower-cost application—when it's put on and in the long run. Send the coupon or see catalog in Sweets Industrial File, Sec. 6c/Ke.

Polyken®

PROTECTIVE COATINGS

222 West Adoms St., Chicogo 6, Illinois Please send me samples and fur

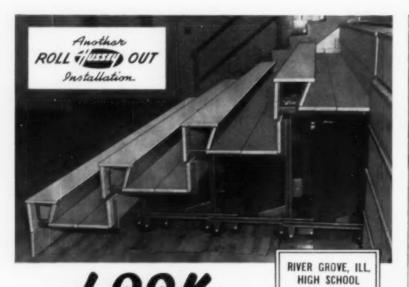
Polyken, Dept. AR-G

Street Address

Please send me samples and further information on *POLYKEN* PROTECTIVE TAPE COATINGS.

Name Title
Company

City Zone State



LOOK **ONLY HUSSEY ROLL-OUT Gym Seats** Have "All Closed" Decks

When you specify Hussey space-saving Roll-Outs, you give your client advantages found in no other gym seats.

Their exclusive all-closed deck construction means they can be closed immediately. There is no need for sweeping first because no litter accumulates under the stand, articles accidentally dropped are easily recovered.

Hussey Roll-Outs are far safer than any other known designthe safety engineers of a nationally known insurance company stated that any insurance carrier of Public Liability Insurance would be justified in extending a LOWER over-all RATE on Hussey Roll-Outs.

They are the result of years of research and are engineered by seating experts. They open and close with exceptional ease, are truly comfortable and fit flat against the wall when closed.

Hussey Roll-Outs are also available in movable sections that can be used in any part of the auditorium.

On your next school or auditorium job use Hussey "Specs"you can depend on them. Hussey seating engineers are at your service without cost or obligation.

For Further Information Phone Collect

SEE SWEET'S CATALOG 23J FOR "SPECS" PHU

IRONWORKERS



SINCE 1835

MFG. CO., INC. HUSSEY

567 RAILROAD AVENUE

NORTH BERWICK, MAINE

Hussey 5 tier 348 sout installation

with and rail end panel and scorer's table

PRODUCT REPORTS

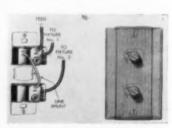
Gas-fired Unit Heaters

A new line of unit heaters features new enclosure styling, advanced burner and heater exchange design, light weight and a wide range of sizes. Stainless steel burners provide resistance to rust and corrosion. Heat exchangers are available in either stainless or aluminized steel. The housing is finished in gray-green baked enamel. Modine Mfg. Co., Racine, Wis.



Prefab Air Conditioning Duct

New air ducting made from rigid Fiberglas board has high thermal and acoustical insulating values. The 34-in.-thick duct presents a barrier to entry of heat from outside air and so keeps the inside air cool as it is circulated. Reinforced aluminum foil forms a reflective outer surfacing. The ducting is produced and shipped in flat sheets which are machinescored to indicate fold lines. After folding on the job, they are sealed with mastic and aluminum foil tape to form a square or rectangular duct. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.



Line Shunt Switch

A new line shunt Roto-Glo Quiet switch simplifies wiring and eliminates soldering, splicing and taping of wall switches. Available in Despard or strap-type models, it is manufactured with screwless terminals to speed installation and cut down labor costs. The switch turns on with a rotary motion and glows in the dark. Switch body is 13%4 in. high by 29/32 in. wide by 19/32 in. deep. Pass of Seymour, Inc., Syracuse 9, N. Y.

(More Products on page 290)

138 Short-flange casing bead 60 Short-flange casing bead

Makes any wall or ceiling opening look better

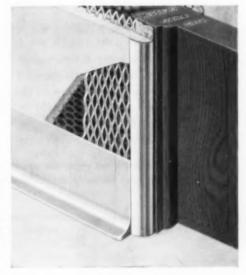
Milcor Casing Bead blends into plaster surfaces to achieve good design... and actually costs less

Wherever it is used — around doors, windows, or ceiling vents... or to separate plaster from other materials — Milcor Casing Bead presents a neat, attractive appearance. Its simple lines fit well into modern interior design, offer you extra freedom in planning for wall and ceiling openings.

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You'll find a variety of styles with or without expanded metal flange in the Milcor line. See them in Sweet's File (Section 12a/In) or send for catalog No. 202.

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PRODUCT REPORTS

Multi-color Spray Enamel

Zatex is a spray enamel which permits the application of two or more colors simultaneously from a single spray gun. Due to a chemical suspension, the various colors remain separated during the spray process, resulting in a speckled finish. It is available in a wide range of color combinations and is said to offer excellent coverage of surface irregularities, a high degree of mar resistance and washability. It adheres to metal, wood,

ceramics, stucco, plaster, wallboard, brick and building block. The Glidden Co., Cleveland, Ohio.

Packaged Water Chillers

Designed specifically for small commercial, industrial and residential applications calling for chilled water air conditioning or industrial water cooling applications, new self-contained chillers require less than 4 sq ft of floor area. Engineered for flexibility of installation. they are available with either watercooled (WC-5200 and 5300 Series) or



air-cooled (AC-5200 and 5300) condensers. Models are produced in 2 and 3 tons. Drayer-Hanson, Inc., 3301 Medford St., Los Angeles 63, Calif.



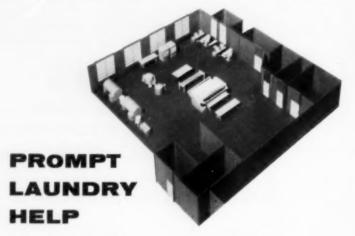
The Color Matcher is designed specifically to provide illumination for precision color tasks. Engineered to give light of the best Kelvin temperature (7500 deg) for exacting comparison of colors, the unit uses a mixture of six 40-watt fluorescent lamps. The resulting light covers the full spectrum range. The unit also produces strong illumination at working levels, over 75 foot-candles. Duro-Test Corp., North Bergen, N. J.



Circuit Breaker

A new ambient compensated Quicklag circuit breaker acts with increased speed to protect circuit wiring and so eliminates tripping due to ambients varying between 30 F and 140 F. Designed for 120-volt a-c lighting and power distribution panels, the breakers are supplied in a full range of ratings: 15, 20, 30, 40 and 50 amp. Federal Pacific Electric Co., 50 Paris St., Newark 1, N. J.

(More Products on page 296)



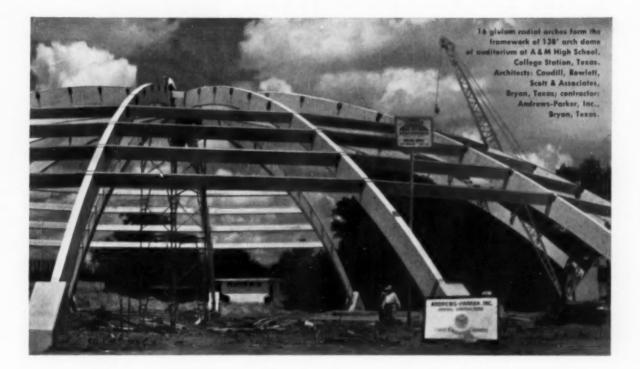
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Richmond • Beverly Hills • Sacramento Local Representatives throughout the United States and Canada "A REAL CONTRIBUTION TO SCHOOL PLANNING LITERATURE" John Lyon Reid

TOWARD BETTER SCHOOL DESIGN by William W. Caudill

So complex is today's task of designing a good school that architects need planning information that goes beyond physical considerations into the social, economic and cultural forces which affect the school system. At the same time they need practical information that offers concrete solutions to planning problems that they are encountering daily.

TOWARD BETTER SCHOOL DESIGN contains this vital information. Working from his immediate experience, William W. Caudill successfully relates school design to the aims and methods of education, to the influence of environment on the learning process, and to the role of schools as community institutions. He shows how the planner must assess every factor, weigh each one, and plan an architectural solution to his specific educational, economic and environmental problems.

William W. Caudill is eminently qualified to render aid and advice on the task of planning schools and school building programs. In his twenty-year school planning career he has won an international reputation for combining a practical approach with exciting creative vision. As research architect at the Texas Engineering Experiment Station of Texas A. & M., he pioneered studies of classroom shapes and sizes as related to physical and emotional environment, and formulated many of the basic principles upon which good schools are being built today. During the last four years he has designed over fifty schools and has lectured and served as a consultant throughout the United States.

Education and Environment: Caudill demands that a good school must be designed from the inside out, and "every idea, every material, every dollar related to the needs of the pupil." What are the physical and emotional needs of the pupil? How does the learning process affect the form of the building? What is the best physical and emotional environment in terms of room shape and size, fenestration, ceiling height, light, color, textures, acoustics, ventilation, landscaping?

Economy: Caudill attacks the problems of costs head-on. He clearly differentiates between "low-cost" schools and "economical" schools, and quotes actual cost figures to illustrate his points. He explains how to set up a cost-control plan, and how total costs are affected by land, shape and size of building, materials, structural frame, construction methods, space allocation, and service equipment. He compares prime and maintenance costs to show how "saving" on one may produce serious loss on the other. Finally, he discusses the proper timing of bid-letting as a cost-cutting tactic.



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Can corridors be used for educational purposes?

What is a good way to provide easel painting in Kindergarten?

Can a school library be designed to serve the community? Can toilets be designed to minimize control problems?

Can open type corridors be used successfully in Northernmost areas?

Can low budget gyms be lighted by natural means effectively?
Can improvements be made on combination of cafeteria service with other school functions in an elementary school?

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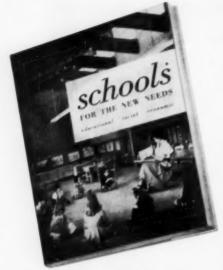
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TESTED, IN-USE SOLUTIONS TO TODAY'S SCHOOL DESIGN AND CONSTRUCTION PROBLEMS

Here, in 312 pages and over 900 illustrations, is a fully-detailed, vivid cross-section of new school buildings which best demonstrate today's sweeping advances in concept and design. These new schools, 66 in all, were selected from all parts of the country to present a wide geographic and climatic variety.

Amazingly, today's pressing need for economy has resulted in better schools than were dreamed possible just a few years ago. Shorn of architectural whimsy, gingerbread and inefficient space, these new schools for today's new needs are working proof that sound planning can pay off in better buildings and lower cost.

This vital new book is divided into 3 extensive sections: Cost Studies, Elementary Schools, Secondary Schools. Each section contains over 20 complete case studies and is profusely supplied with interior and exterior photographs, plans, charts and diagrams. Among the hundreds of diverse and pertinent topics discussed are comparative costs, expandability, flexibility, maintenance and operating costs, quality values, architectural economies, orientation, and rehabilitation. Although an entire section is devoted to cost studies, special attention to costs and economical design is included in every case study in the book.

Schools for the New Needs gives a new insight into the problems and solutions of planning better schools at less cost. Its absorbing test is refreshingly clear of the involved technical jargon usually associated with works in this field.

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How new heating and ventilating system cuts schoolroom construction costs...



Dunham VARI-AIR Unit, concealed in mixing flue behind blackboard, mixes fresh and recirculated air—silently diffuses it to classroom through overhead grille.

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Dunham Heating and Ventilating Unit pulls in outside fresh air and tempers, filters and discharges it through a tunnel or ceiling plenum to VARI-AIR Units.



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PRODUCT REPORTS

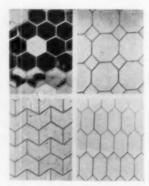
Waterproofing Materials

Meco Seallile is a waterproofing material which sets in 5 min and bonds to concrete or other masonry walls or floors to eliminate dampness or active water leakage. Said to seal masonry walls permanently against hydrostatic pressure, it is also claimed that Sealtile will make concrete resistant to oil, grease and acid. Supplied in liquid form, it is mixed with Portland cement for severe conditions or with Portland cement and

sand for ordinary conditions. Maintenance Engineering Co., 16 W. Johnson St., Philadelphia 44, Pa.

Twin Compressor Chillers

Duplex CenTraVacs ranging in size from 800 to 1200 hp are being produced for air conditioning installations demanding high tonnage capacities. The twin compressor arrangement makes capacities up to 1500 tons of refrigeration possible. The compressors are located on the same side of a single, large evaporator and condenser. The Trane Co., La Crosse,



New Vinyl Tile Designs

Ceramatile floor coverings for bathroom, kitchen or utility room include the designs shown above and also large hexagons, small octagons, brick and random ashlar. The tile designs are pressed into vinyl slabs measuring 9 by 9 in. and 1/8 in. thick. Available in white and 23 colors and in 72 styles, including plain, marbleized and Terra-Tile, the tiles are said to be resistant to light, aging and staining from acids, alkalies, etc. Robbins Floor Products, Inc., Tuscumbia, Ala.



Food Service Section

A compact new section includes a refrigerated salad and sandwich section. equipment stand for grill and French fryer, oven section and hot food section with dry or moist heat. Features include full double-width door opening, selfclosing storage drawers with removable deep-drawn pans, roll-out grease tray, built-in electric oven with clock timer and temperature control, and one-piece stainless steel wells. Stanley Knight Corp., 3430 N. Pulaski Rd., Chicago 41.



Portable Drafting Machine

The Draftette is a precision drafting instrument, calibrated to 0.0005 in., which can cover an area of 11 by 17 in. and folds up like a jackknife to fit in a coat pocket. It will clip to a drawing board or sketch pad and is designed to withstand hard normal use. David Miller & Associates, P.O. Box 572, Beverly Hills, Calif. (More Products on page 300)

Telephone and Fire Alarm Systems

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ALERT THE FIRE DEPARTMENT Whatever the type of fire protection you need, whatever the size of the building, a Couch fire alarm system has the dependability that saves lives and property. Write for Bulletin 124.



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tips on new tilt-up construction technique



Base slab is swept clean and flooded with water to help visqueen film cling smoothly. Ordinary push-brooms take wrinkles out of film. Extra wide visqueen film is used to avoid creases in finished wall.



New form is built on base slab. Workmen install reinforcing steel on new form and prepare to pour next slab. A smooth sheet of VISQUEEN film makes a perfect bond-breaking membrane.

Contractors everywhere find important time and money saving advantages in tilt-up construction methods. Using tough visqueen film as a bond breaker, slabs are lifted quickly, easily. Surfaces are amazingly uniform and reveal a smooth, architectural finish. Visqueen film eliminates cracking, sticking and uneven, rough surfaces. What's more, visqueen film is inexpensive. Reduces labor costs, too, because it's so lightweight (1000 sq. ft. of visqueen film weighs less than 10 pounds) and easy to use. Follow the photo story on these pages and see the new advances in tilt-up construction made possible with VISQUEEN film.

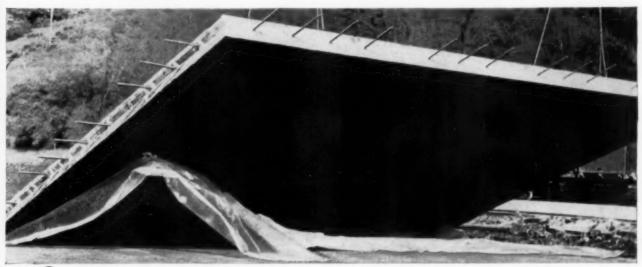
only VISQUEEN offers extra wide widths to make perfect bond-braking membranes.



Minimum time and labor was required to apply visqueen film bond-breaking membrane and set up new form over base slab. Cement is poured into new form and crew of finishers complete job.



Curing blanket of VISQUEEN film used to cover newly finished slab. Technique eliminates need for curing compound in cement...prevents checking. No mud dam needed for flooding concrete. No curing compounds to clean up.



Finished slabs are lifted from base slabs and stacked to one side until needed. Notice bond-breaking membrane of VISQUEEN film between each stacked slab. Slabs, separated by VISQUEEN film, break from base easily, quickly and safely.

3 Lightweight, sturdy roof sections are being constructed by the new tilt-up method, too. Cardboard boxes, strengthened with dividers and covered with visqueen film, are placed in the form and reinforcing steel is stretched above and below boxes. Roof sections are covered with curing blanket of visqueen film for even, strong cure. Finished roof sections are lifted from forms and stacked like wall sections until needed. Notice pre-constructed wall sections in place in background.

Write us for name of nearest supplier of VISQUEEN film.



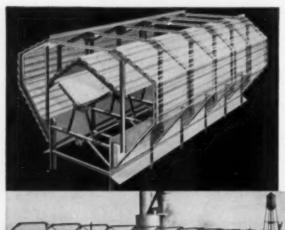
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TOP—The Burt Monovent Ventilator. Sizes to 96" throat—continuous runs, as required.

BELOW—But Monovest on The S. K. Wellman Co. plant during eraction by Industrial Roofing & Sheet Metal, Inc., Cleveland. Contractor— Albert M. Highey Co., Cleveland. Engineer— Vincent Eaton, Cleveland, Architect—Charles Bacon Rowley & Associctes. Inc., Cleveland.

110 FOOT BURT MONOVENT EXHAUSTS HEAT AND SMOKE FROM THE S. K. WELLMAN COMPANY ADDITION

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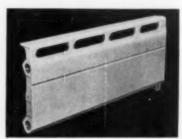
The Burt Manufacturing Company

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PRODUCT REPORTS

Laundry Equipment

A line of four automatic clothes washers, three electric and four gas clothes dryers and seven wringer washers is being produced by Philco as its entry in the laundry equipment field. Philco Corp., Philadelphia, Pa.



Cast Iron Baseboard Heating

Radiantrim baseboard panels for forced hot water or steam heating have specially designed apertures along the top to direct heat into the room. Evenly spaced fins, 42 per 24-in. section, are said to give maximum heat transfer and smooth air flow. Available in 24-, 18- and 12-in. sections to permit flexible installation in 6-in. increments, the panels are high enough above the floor to permit cleaning underneath. They can be painted with any non-metallic, heat-resisting paint. American Radialor & Standard Sanitary Corp., Plumbing and Heating Div., Pittsburgh 30, Pa.



Wall Peninsula Cabinets

These cabinets, with double doors on each face, are for use above snack bars, room dividers and the like. Items stored in them can be inserted from one side and removed from the other. The units are 24 in. wide and 13 in. deep. One model is 30 in. high and has two adjustable shelves, while another is 24 in. high with one adjustable shelf. Republic Steel Kitchens, Republic Steel Corp., Canton, Ohio.



In addition to Bethlehem Longspans the San Leandro, Calif., distribution center of Western Electric Company contains 583 tons of Bethlehem structural shapes. Architects and Engineers: Lockwood and Greene Engineering, Inc., New York City, General contractor: Swinerton and Walberg Company, San Francisco and Oakland.

NEW WESTERN ELECTRIC BUILDING HAS NEARLY 7 MILES OF LONGSPANS

A new Western Electric Company distributing house at San Leandro, Calif., contains 482 tons of Bethlehem Longspan Joists — or 35,317 lineal ft — in the roof structure.

The new structure measures 425 by 525 ft and covers some five acres of ground. It is a distribution center for telephone supplies to Pacific Telephone and Telegraph Company's Northern California area.

Bethlehem Longspans were selected for the roof structure of this building for a number of reasons. Longspans allowed the planners to make maximum use of floor space, because supporting columns could be reduced to the fewest possible. Pipes and conduits could be run right through the open webs of these joists, greatly simplifying the installation of electrical and heating systems. Bethlehem Longspans saved construction time, too. They arrived at the job site fully fabricated, clearly marked and ready for immediate placing.

Bethlehem Longspans are good joists to remember when you are planning a building where maximum unobstructed floor space is a paramount consideration. The nearest Bethlehem sales office will be glad to furnish full information about Bethlehem Open-Web Steel Joist, both Longspan and Shortspan series. Or write to us at Bethlehem, Pa.

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BETHLEHEM LONGSPAN JOISTS



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ARCHITECTS' AND ENGINEERS' INFORMATION SERVICE

Write today for complete A.I.A. files on heating with gas in big buildings of every type, and for Janitrol specifications service. There's no obligation. Specifying Janitrol gas-fired warm air individual room units in place of a central system can mean savings up to 50% on original equipment and installation. *More* dollars to spend for other phases of construction or modernization, with assurance that the children and teachers will get top quality heating in classrooms, gymnasium, cafeteria.

The versatility of Janitrol gas-fired units makes them easily adaptable for a wide variety of installations. Units operate only as needed—no wasted heat in unoccupied areas. With a Janitrol "multiple unit" installation, you can provide zoned comfort without extra cost... insure lifetime heating economy.

All requirements are met by Janitrol's complete line. Select from models for closet or alcove, for suspension from ceiling, for vertical or horizontal discharge in a wide range of heating capacities. Every Janitrol gasfired heating unit features the famous Janitrol Multi-Thermex heat exchanger, with a record of less than $\frac{1}{4}$ of 1% failures for any cause in over two million exchangers. Your reputation is in good hands when you trust it to Janitrol quality and economy.

HERE'S A COMPACT, LOW COST INSTALLATION. The Janitrol Winter Conditioner is on a plenum alongside an outside wall and backed up to a partition wall. Warm air is discharged from the top outlet grille across the outside wall and windows. Fresh air and recirculation air enters through the floor plenum. If desired, ducts can be extended through the partition into the adjoining classroom, and both rooms heated by one unit. Installation in Tilley Elementary School, Orange, Texas. Architects, Stone & Pitts, Beaumont.





"WE SAVED ENOUGH TO BUILD WITHIN OUR BUDGET BY USING JANITROL GAS UNIT HEATERS INSTEAD OF A CENTRAL SYSTEM", states Mr. James Dawson, Sup't. of Schools, Crawford County, Bourbon, Mo. Each heater is thermostatically controlled. The architectural firm of Barnes and Snipes writes, "The reason for using Janitrol equipment included economy of installation and flexibility of handling the heating problem." Janitrol Gas Unit Heaters are designed for dual fuel operation, save floor space, reduce maintenance costs.

A TYPE OF INSTALLATION FAVORED BY MANY ARCHITECTS incorporates a Janitral Harizantal Winter Conditioner suspended from the ceiling in each room. Warm air is directed parallel to outside walls and across glass areas. A built-in centrifugal blower provides quiet, even air circulation. This unit is also approved for use with a duct system, and is available in models for 65,000 to 150,000 Btu/hr. inputs. Installation illustrated is at Rosen Heights School, Fort Worth, Texas. Architect is Stanley Brown, Dallas.



LOUVERED CEILING PANELS of the venetian blind type serve a three-fold need at West Columbia School, near Houston, Texas. They conceal the Janirol blower-type unit heuter. They effectively diffuse the heat, preventing it from blasting on the occupants below. They diffuse and distribute light from the saw-tooth roof windows. This type of application is recommended for areas where "cold floor" problems are not encountered. Architect: Donald Barthelane, Houston, Texas. Contractor: The Warren Co., Houston.

MANY SCHOOL-HOUSE TYPE FURNACES HAVE BEEN CONVERTED FROM COAL TO CLEAN, EFFICIENT GAS by installation of Janitrol SC-05 large capacity burners, which are designed for input capacities up to 750,000 Btu/hr. each. The Janitrol SC-05 Conversion Burner fits furnaces or boilers with an ashpit opening not less than 151/4" wide by 7-5/32" high and in which the depth of the burner throat does not exceed 4". Shown here: Installation at Bridgeport High School, Bridgeport.

Janitrol

JANITROL HEATING & AIR CONDITIONING DIVISION SURFACE COMBUSTION CORPORATION COLUMBUS 16, OHIO

IN CANADA: MOFFAT HEATING & AIR CONDITIONING DIVISION MOFFATS, LTD., TORONTO 1.5

Also Makers of Surface Industrial Furnaces, Kathabar Humidity Conditioning, Janitrol Residential Heating and Cooling Equipment.

winter conditioners adaptable for summer cooling

... with installation of Janitrol's new air-cooled cooling system that uses no water, eliminates water service and maintenance costs. May be installed concurrently with winter conditioner, or any time later, without additional duct work.

"It's pretty discouraging to write careful equipment specifications and then have them rejected by a client because he just doesn't know the make. But that never happens when we specify Reznor gas heating equipment. Reznor is the one make all our clients know and accept. It's not hard to understand why. Reznor sells nearly one out of two gas unit heaters, so Reznor is the unit heater our customers are used to seeing wherever they go. And Reznor is the brand they see advertised in the national magazines they read.

"Client acceptance is only one of the reasons we specify Reznor equipment. We know from experience that Reznor stands for quality of construction and performance. High operating efficiency . . . long life . . . dependable service.

"We like to work with Reznor because it gives us one source for all our gas heating equipment needs . . . suspended gas unit heaters for all industrial and commercial heating requirements . . . gas-fired duct furnaces which let us custom engineer heating and heating-cooling systems to meet exact job requirements.

"We appreciate Reznor availability, too. There's a stocking Reznor distributor in every major city. We know we can specify Reznor equipment with complete assurance that the units we specify will be available when and where they're needed."

Yes, Reznor is the preferred line of gas heating equipment . . . preferred by clients, by architects, engineers and heating contractors. If you don't know Reznor, it's time you got acquainted. Write today for free catalog or give your nearby Reznor distributor a call. You'll find him listed under "Heaters-Unit" in the yellow pages of your telephone directory.







OFFICE LITERATURE

(Continued from page 222)

Seating Rise, Back-to-Back Spacing Comprehensive analysis prepared by engineering staff shows how to combine the elements of line-of-sight for spectators, maximum seating and minimum construction costs in planning gymnasium seating. Horn Div., Branswick-Balke-Collender Co., 623 S. Wabash, Chicago 5, Ill.*

Sliding Glass Doors

Catalog 118 describes a new line of aluminum sliding glass doors designed for single glazing and economical requirements. Frank B. Miller Mfg. Co., Inc., 3216 Valhalla Dr., Burbank, Calif.*

Commercial Air Conditioners

Comprising articles which appeared originally in Air Conditioning & Refrigeration News, this 72-page book covers general, institutional and industrial applications and also the packaged heat pump. A second book, Air Conditioning the Home (44 pp), is also available from Business News Publishing Co., 450 West Fort St., Detroit 26, Mich.

Recessed Incandescent Lighting (AIA 31-F-2) Bulletin B-60 presents specifications, cross-sectional construction drawings, candle-power distribution curves and coefficients of utilization for a wide line of shallow and deep

for a wide line of shallow and deep recessed incandescent lighting units. 20 pp. Gruber Lighting, 125 So. First St., Brooklyn 11, N. Y.

Dehumidification for Plants

Bulletin 496 answers the dehumidification questions and shows equipment for dehumidifying areas from a home basement to a complete industrial plant. 4 pp. Abbeon Supply Co., 179-15 Jamaica Are., Jamaica, N. Y.

Packaged Air Conditioners

Bulletin C-1100-S109P gives features, dimensions, weights, sizes and component parts of the 3-, 5- and 7½-hp packaged air conditioners produced by Worthington Corp., Advertising § Sales Prom., Harrison, N. J.*

Chalkboards

A full range of chalkboards is included in a 12-page brochure which shows graphically the Loxit method. Also included are tackboards, trim, sliding boards, trophy cases and bulletin boards. Loxit Systems, Inc., 1217 W. Washington Blvd., Chicago 7, Ill.

(More Literature on page 308)

Like fingerprints, no two buildings are ever exactly alike

The precise requirements that characterize each building must also include the curtain wall in its function as a vital part of the illumination, ventilation, and insulation systems.

For large buildings, so complex a part of the structure cannot be bought "off the shelf". To perform most efficiently and economically, it must be tailored to meet the specific conditions imposed by the design.

Here at Flour City we have been extremely successful in fabricating and erecting "custom-made" curtain walls for large buildings. As architectural metal designers and fabricators (since 1893), we have assisted distinguished members of the architectural profession in the production of fine buildings.

The accumulated years of experience in architectural metals is available to architects for the asking. We particularly welcome the opportunity of consultation during the preliminary design stages of buildings.

For the Republic National Bank, Flour City pressed 650 panels from 7' x 13' aluminum plate. Nearly 3,000 plates of the same length but less width were formed and blanked out in the center to receive a Flour City reversible window.

On the window panel aluminum is ½" sheet backed with 1½" fiber-glass insulation and vapor sealed with aluminum foil. This curtain wall weighs just 6 pounds per square foot.



Architects:

HARRISON & ABRAMOVITZ NEW YORK, N. Y. GILL & HARRELL DALLAS, TEXAS

Contractor:

J. W. BATESON CO., INC. DALLAS, TEXAS



"...will help architects carry out their ideas for today's better homes" "Electricity is an ever-increasing influence in today's life. It is one of the forces of progress; it is an improvement of our surroundings. It is an integral part of any design for modern living, and thus of particular interest to architects.

"The LIVE BETTER ELECTRICALLY program, as it increases the home owner's awareness of the advantages of electrical living, will give the architect new scope and flexibility of design. It will enable him to incorporate more labor-saving, leisure-making electrical servants in modern homes. The program will add to the understanding and efficiency of builders and electrical contractors. It will help architects carry out their ideas for today's better homes... and for the better homes of tomorrow."

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LIVE BETTER ELECTRICALLY is a long-range, industry-wide program coordinating the efforts of over 300 utilities with appliance manufacturers, distributors, dealers, architects, builders, realtors, contractors and bankers to promote the benefits of electrical living to the entire nation.

That's why architects all over the country are enthusiastically participating in the LIVE BETTER ELEC-TRICALLY program. They are benefiting by the better understanding and acceptance of the literally hundreds of ideas for better electrical living that they incorporate into their plans. Not only the architects' clients, but builders



Marcel Breuer is one of our leading modern architects and designers. The scope of his work runs from many houses over the world to the new UNESCO Headquarters Buildings in Paris. Mr. Breuer's philosophy as an architect was recently published in his hook "Sun and Shadow."

Electrically



and electrical contractors are being made increasingly conscious of the many ways electricity can be used to plan better homes. The LIVE BETTER ELECTRICALLY program will continue to increase this awareness during the years ahead.

A new 72-page idea book for home owners is receiving nationwide distribution. It contains hundreds of fully illustrated ideas, plans, arrangements, installation tricks and suggestions for better electrical living. Your clients will be reading this book. If you would like a copy, call or write your local utility company, or mail the coupon at right with 10¢ to cover the cost of handling.

LIVE BETTER ELECTRICALLY P.O. Box 543 Great Neck, New York

Please send me a copy of "New step-by-step ideas to help you LIVE BETTER... Electrically." I enclose 10¢ to cover cost of handling.

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Street Address

City Zone State



OFFICE LITERATURE

Axial Fans

Bulletin B-1013 describes Series 203 axial fans for ventilation, process air supply and process air recirculation. Includes special ordering guide for architects and engineers. 36 pp. American Blower Corp., Detroit 32, Mich.*

Cable and Tube Raceways

Catalogs elements of the Globelray system of cable troughs, with installation instructions, load charts, accessory items, and a list of distributors. 12 pp. The Globe Co., 4000 S. Princeton Ave., Chicago 9, Ill.*

Stainless Steel Roof Drainage Guide (AIA 12-I) Describes qualities and properties of stainless steel, illustrates standard parts and accessories and gives pointers on design. 4 pp. Armco Steel Corp., Product Information Service, Middlelown, Ohio.*

Color Corrected Mercury Vapor Lighting (AIA 31-F-23)

Reports the results of an analysis of lighting of indoor sports and assembly areas from the standpoint of players, spectators, choice of equipment and selection of lamps. 16 pp. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.

Southern Pine Architect's Bulletin 8

(AIA 19-A-1) Includes complete technical data on the specification and use of glued laminated Southern Pine timbers. 8 pp. Southern Pine Assn., Natl. Bank of Commerce Bldg., P.O. Box 1170, New Orleans 4, La.

Nesbitt Sill-Line Radiation

Publication 102 gives details and the full range of sizes of the five radiator enclosure styles. Also contains illustrated descriptions of accessories and optional equipment. 20 pp. John J. Nesbill, Inc., State Rd. & Rhawn St., Philadelphia 36, Pa.

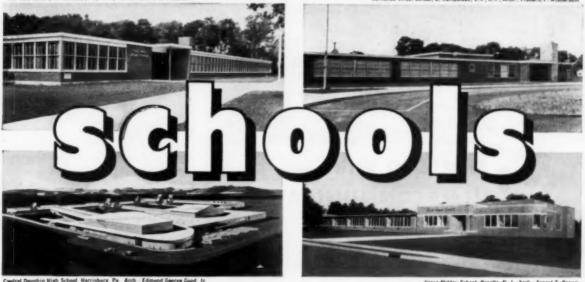
Automatic Home Disposal Unit

(AIA 35-J-41) Pamphlets describe the Calcinator unit for home incineration. Calcinator Corp., 28th and Water Sts., Bay City, Mich.

Drywall All Metal Trim

(AIA 23-M, NN) Illustrates complete line of all-steel corner guards and edge guards for drywall construction. 4 pp. Drywall Trim, Inc., 2408 N. Farwell Ave., Milwaukee, Wis.

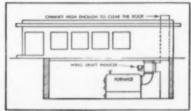
(More Literature on page 310)



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Semi-Rigid, Polyvinyl Chloride Types. These wires have excellent insulation resistance and electrical stability under high humidity conditions. Semi-rigid Plastite® insulation is tough abrasion resistant and flame resistant. Types available: solid and stranded conductor; semi-rigid vinyl or enamel textile insulation; bare or tinned copper shield. With or without cotton braids or vinyl jacket.



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TELECABLE® Multiconductor Paired Inside Wiring Cable. Furnished in #24 AWG in 6, 11, 12, 16, 21, 26, 32, 51 and 76 pairs, and in #22 AWG in 6, 11, 12, 16, 26, 32 and 51 pairs. These cables have semi-rigid Plastite insulation and brown or ivory Plastite jacket. They are light weight, easy to install, have excellent insulation resistance and are unaffected by humidity. The color-coded polyvinyl chloride insulation does not tend to cold flow even when the cable is bent sharply as it often is when placed in conduit.

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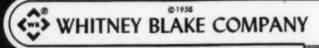
Bare soft copper conductors insulated with high dielectric strength polyvinyl chloride insulation. Underwriters' Laboratories approved for fire and burglar alarm system internal wiring.

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WB HAS that which so many others have yet to gain . . . EXPERIENCE

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NEW HAVEN 14, CONNECTICUT

OFFICE LITERATURE

Tectum Acoustical Ceiling Panels (AIA 39-B) Describes new noncombustible wood fiber acoustical material for metal-T suspension systems. 4 pp. Tectum Div., Peoples Research and Mfg. Co., 156 So. 6th St., Newark, Ökio.*

Silicone Based Paints

Details design and maintenance advantages of silicone-based finishes. Describes formulations and lists paint manufacturers in U. S. and Canada which supply coatings based on silicones produced by *Dow Corning Corp.*, *Mid*land, *Mich.*

Electrical Service Entrances

1956 Quick Guide (TCD-17) contains pricing information and descriptions of service entrance devices for homes, farms, commercial and light industrial installations. 36 pp. General Electric Co., Assemblies & Components Sales, 87 Whiting St., Plainville, Conn.*

Engineering in Wood (AIA 19-B-3)

Modern Construction (TSG-15) illustrates and describes the application of glulam members in various types of construction. Includes design data for arches, girders, beams and purlins. 16 pp. Timber Structures, Inc., P.O. Box 3782, Portland, Ore.*

Caulking and Glazing Compounds

(AIA 7-D) Presents information about a new synthetic caulking and glazing compound made from *Thiokol* liquid polymer which can be extruded with a caulking gun. 4 pp. *Thiokol Chemical Corp.*, 780 N. Clinlon Ave., Trenton 7, N. J.

1956 Alkeo Catalog

Describes a new 2- by 2-ft incandescent lighting fixture, Hap-E-Lile color-improved lighting and other combinations for varying sizes, lens and frame finishes. Alkeo Mfg. Co., 4242 N. Lincoln Ave., Chicago 18, Ill.

Drains (AIA 29-C)

Covers Plumb-easy line of drains and engineered plumbing products, with individual dimensional drawings. 96 pp. Jay R. Smith Mfg. Co., 1119 Morris Ave., Union, N. J.

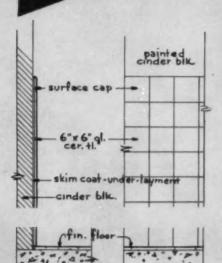
Literature Requested

E. G. Pardridge, c/o Litchfield Whiting Panero & Associates, Via Salandra No. 6, Rome, Italy.

POMARY Real Clay TILES

SPECIFICATION

This project is one where the masonry walls were specified to be as true and plumb as possible, but in case it was found necessary, a skim coat of coment or underlayment was to be applied by or under the direction of the Tile Contractor to receive tile. It was thought best to apply this skim coat, and underlayment was used to the height of the wainscet or wall to be tiled. Tile was applied after floor finish was in place, with no cove — except where floor was tiled.



section



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elevation

CHOOL

CLASSROOMS CORRIDORS
REST ROOMS CAPETERIAS
GYMNASIUMS AUDITORIUMS
STAIRWAYS AND OTHER AREAS

Illustrated is a corridor and reception room in the Tholl Street School, Norfolk, Virginia, for which Oliver & Smith, A.I.A., were the Architects. The Tile Contractor was Ajax Tile & Marble Co. of Norfolk. The wall tile in the corridor is ROMANY Nos. 741 Citrus Yellow and 787 Brown and in the reception room, ROMANY No. 741 Citrus Yellow. ROMANY Real Clay Tile possesses characteristics of exceptional value in school installation and maintenance, resulting from our long experience in supplying tile best adapted to school needs.

Aside from attractive appearance and that all ROMANY Tile is stain proof, acid proof, fade proof and fire proof, there is the essential fact that ROMANY Tile will withstand abuses from scuffing and other wear incidental to school life. This is achieved by ROMANY Buff Body Tile with its rugged clay body and hard glazed surface.

Where exceptional wear and abuse is anticipated, this condition is fully met by ROMANY Red Body Tile, which is far tougher than competitive products.

Write for our "School Folder"

UNITED STATES CEPAMIC TILE COMPANY

And Its Subsidiary, THE SPARTA CERAMIC CO.

Member: Tile Council of America and Producers' Council, Inc.

217-H FOURTH ST., N.E., CANTON 2, OHIO

THE RECORD REPORTS

ON THE CALENDAR

July_

- 2-13 Plastics in Building; a special program under the joint supervision of the Department of Architecture and the course in building engineering and construction of the Department of Civil and Sanitary Engineering Massa-
- chusetts Institute of Technology, Cambridge, Mass.
- 6-8 Meeting to ratify Constitution and By-laws, National Federation of Associations of Consulting Engineers — Mayo Hotel, Tulsa, Okla.
- 9-11 Health for the Aging Medical and Social Services; Ninth Conference on Aging sponsored by the University of Michigan — Ann Arbor, Mich.
- 16-18 Food Service Institute, sponsored by College and University Busi-

- ness magazine in cooperation with Northwestern University and the University of Chicago — Knickerbocker Hotel, Chicago
- 22-28 The 23rd International Congress for Housing and Town Planning; theme, "The City and Its Surroundings" — Vienna, Austria

August

- 13-31 The Artist, Materials and Technology, a special summer program sponsored by the Department of Architecture Massachusetts Institute of Technology, Cambridge 39, Mass.
- 25ff Seventh annual National Furniture and Home Furnishings Show; until Sept. 11 — Coliseum, New York City
- 27-31 The 86th annual Congress of Correction, American Correctional Association — Hotel Statler, Los Angeles

September_

- 3–7 Annual Conference, National Urban League — Cincinnati
- 13-15 Central States Regional Conference, American Institute of Architects — Omaha
- 15–23 National Home Week, sponsored by the National Association of Home Builders
- 17-20 Annual convention, American Hospital Association—Palmer House, Chicago
- 17-21 National Technical Conference, Illuminating Engineering Society — Hotel Statler, Boston
- 19-21 The 25th Annual Meeting, Porcelain Enamel Institute, Inc. — The Broadmoor, Colorado Springs
- 24-29 Annual meeting, Atomic Industrial Forum and Trade Fair of the Atomic Industry — Navy Pier, Chicago
- 28-29 Annual General Conference, American Interprofessional Institute — Lincoln, Neb.
- 28-29 North Central States Regional Convention, American Institute of Architects — Pfister Hotel, Milwaukee

OFFICE NOTES

Offices Opened_

- Murray S. Cohen, Architect, has announced the opening of his offices at 210 E. 39th St., New York 16, N. Y. Mr. Cohen was formerly associated with the firm of Morris Lapidus.
- Day & Thorson, Architects, is the new (Continued on page 316)

MICHAELS Adjustable ASTRAGALS of Extruded Bronze!

... compensate for the expansion and contraction of doors, and close as nearly as possible a door of any type. Michaels Astragals are simple, practical, rugged, easily installed and adjusted ... help eliminate drafts and air currents ... keep out dirt and dust. They are available in several styles, two of which are illustrated here.

TYPE "A" Surface Astragal Applied to either wood or hollow metal doors ... or as a stop bead... or at bottom of door. TYPE "E" Mortise Astragal Applied on bull-nose hollow metal or wood double-acting door ... or at bottom of door.

• Write for complete details and prices. Be sure to specify whether astragals are for wood or metal doors, and finish.

OTHER MICHAELS PRODUCTS

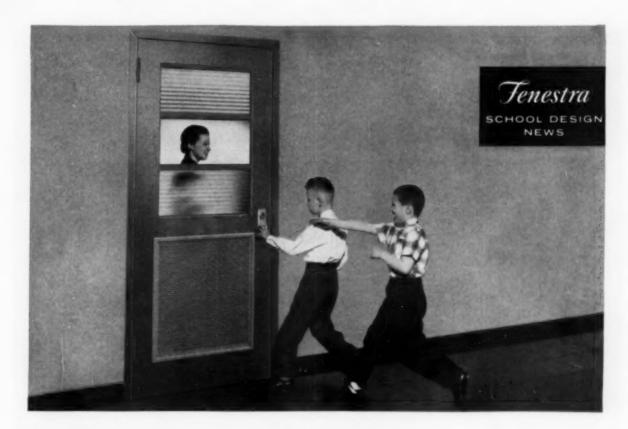
Bank Screens and Partitions
Welded Doors
Store Fronts (special)
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Windows (special)

Revolving Doors Stair Railings Church Work (special) Candelabras Name Plates Letters Check Desks Lamp Standards
Marquees
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Bronze Vases

Literature is available on all Michaels products

THE MICHAELS ART BRONZE CO., INC. P. O. BOX 668-R, COVINGTON, KENTUCKY

Since 1870 the name Michaels has been a symbol of exceptionally high quality



Save up to \$100 per door with Fenestra's

New Fen-Air Louvered School Door

Custom quality at stock door prices with Fenestra Hollow Metal Door-Frame-Hardware Units

Here's a handsome louvered metal door designed for modern schools. It gives complete classroom privacy, plus free air circulation to corridors. The perfect door for air-conditioning and forced warmair heating systems!

Like all Fenestra Doors, the Fen-Air is also designed to save you money—as much as \$100 per door, installed, compared with custom-built louvered doors. Here's why!

First, Fenestra Doors cost less because they are mass-produced to custom-quality specifications.

Next, they cost less to install because the door and frame are pre-fitted and machined for all template and surface-mounted hardware. One man with a screw driver can install it in minutes! You never have

to cut, fit, mortise, drill or tap a Fenestra Door.

Finally, you save on maintenance year after year because Fenestra Doors can't warp, swell, stick or splinter. They always swing open smoothly and close quietly.

Fen-Air Doors feature the New Fenestra Lock-Miter Joint rolled steel frame, Bonderized, with a baked-on prime-paint coat. High-quality Fenestra hardware and accessories complete the package.

The door illustrated above is glazed with a combination of patterned and clear glass designed especially for school classrooms. The horizontal bars may be removed for installation of a single pane of glass if desired.

Before you choose the doors for your new school building, be sure to call your local Fenestra Representative—listed in the Yellow Pages—for complete information and prices on Fenestra Fen-Air Louvered Door-Frame-Hardware Units or mail the coupon below.



HOLLOW METAL DOOR-FRAME-HARDWARE UNITS

YOUR SINGLE SOURCE OF SUPPLY FOR DOORS . WINDOWS . BUILDING PANELS

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School	
Address	
City	State



Raymond Loewy Corporation selects Bigelow carpet for Rich's



Raymond Loewy Corporation enjoys a national reputation as outstanding planners and designers of many famous American buildings. Successful department store design has played an important role in establishing this reputation.

The prime objective of store interior design is to achieve a pleasant and attractive atmosphere. Style and quiet luxury must be combined with materials that provide long, economical service

The correct choice of carpeting, therefore, is a major consideration. Bigelow carpeting was chosen

William T. Snoith is President of Raymond Loewy Corporation. Many famous American buildings owe their fashionable appearance to the designing and planning skills of this organization.

Some recent projects are the J. W. Robinson Company Department Store in Beverly Hills, California, the 12million-dollar Westgate Shopping Center in Cleveland and Lord & Taylor's new department store in West Hartford, Connecticut.



Bigelow's loop pile Velvet carpeting establishes a pleasant, inviting atmosphere in Rich's Department Store, Knoxville, Tennessee,

new department store in Knoxville

to do the job for Rich's new department store in Knoxville, Tennessee.

Explaining the choice of Bigelow, Loewy Corporation's President, Mr. William T. Snaith, said:

"Carpets used for store interiors are planned with the thought of customer comfort and quiet, pleasant environment, as well as their 'wearability' day in and day out under the heavy traffic of thousands of people.

"I am glad to report that the Bigelow Carpets used in Rich's are exceptionally good-looking and fit in with the over-all design of the store. Wearing qualities are tops, and we are all well pleased with Bigelow performance."

Next time you plan a carpet installation, consult Bigelow's specialists for assistance. Bigelow's facilities and experience insure the correct choice of the right carpet at the right price.

You can arrange for this convenient service at any time. Simply contact the nearest Bigelow sales office—or write to the Bigelow Contract Dept., 140 Madison Avenue, New York 16, New York.



Bigelow ... Number 1 name in Carpets

Bigelow sales offices are located in the following strategic cities: Atlanta, Ga.; Boston, Mass.; Buffalo, N.Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Detroit, Mich.; Hartford, Conn.; High Point, N.C.; Kansas City, Mo.; Los Angeles, Calif.; Minneapolis, Minn.; New York, N.Y.; Philadelphia, Penna.; Pittsburgh, Penna.; St. Louis, Mo.; San Francisco, Calif.; Seattle, Wash.



THE RECORD REPORTS

(Continued from page 314)

partnership formed by H. Summerfield Day, A.I.A., and George A. Thorson. Offices are at 610 Rood Ave., Grand Junction, Colo.

 Louis A. Goldstein, A.I.A., has opened an office at 413 Cotton Exchange Bldg., New Orleans 12, La. He was formerly with Goldstein, Parham & Labouisse, Architect.

proper

heat

schoolroom

distribution

... always

effectively

located

 James E. Whitaker, Architect, has established offices at 8302 Broadway, San Antonio, Texas.

Firm Changes_

pearance and players' safety, assure natural thermal comfort in gymnosium.

- H. E. Beyster & Associates, Inc., architects and engineers, have announced the appointment of Raymond H. Wetherby to the firm's new business department. Offices are at 700 Griswold Bldg., Detroit 26, Mich.
- Winston Elting, Architect, has established an office at 25 E. Jackson, Chi-

cago. Mr. Elting was formerly a partner in the firm of Schweickher and Elting and of Schweikher, Elting and Bennett.

- Peter G. Harnden Associates, architectural and industrial designers, have opened offices at Orgeval S.O., Paris, France.
- Hertzka & Knowles, Architect, of San Francisco, announce that architect Victor A. Cusack has joined their staff.
- Jensen & Halstead has become Jensen, Halstead and Hawkins, Architects and Engineers, upon the admission of Mortimer H. Hawkins to partnership. The firm has offices at 228 N. La Sallé, Chicago.
- Robert E. Plettenberg has announced the establishment of his offices for the general practice of architecture at 1300 Canyon Rd., Santa Fe., N. Mex.
- James Scott Rawlings, A.I.A., and John E. Wilson, A.I.A., have opened offices at 3341 W. Cary St., Richmond 21, Va.
- Addison Erdman, A.I.A., has announced his association with Francis Rogers and Jonathan Butler, Architects, of 219 E. 44th St., New York City.
- Arthur Silver, Architect, has established architectural offices at 120 E.
 56th St., New York 22, N. Y.
- Woodford & Bernard, Architect, of Los Angeles, have announced the change of the firm name from Parkinson, Powelson, Briney, Bernard & Woodford; the firm's personnel has not changed.

with SHAW RADIATORS

The rooms above, part of a recently completed Shaw school installation, demonstrate the successful application of two important rules for room occupant comfort: properly designed heat distribution units, and correct unit location.

Only Shaw has the radiator design standard that answers these requirements correctly. Shaw's exclusive, AIR-e-ATED Radiant Heat, a combination of radiant and convected heat, is rivalled only by Nature at her best. It is distributed evenly, in unvarying proportions, eliminating temperature extremes within the room.

Proper location under window areas or against cold walls is always possible because of Shaw's choice of models and wide range of sizes. Choice of same end or opposite end tapping further simplifies location, and offers opportunities for reduced piping costs. All models—baseboard or panel—are only 3" thick, operate on steam or hot water up to 150 psi.

Find out today how Shaw's exclusive advantages in design and construction can help you get the correct answers to your room heat distribution problems. Write for free literature, or contact the Shaw-Perkins Representative near you.

Write for new Shaw brochure
"Solving Modern Room Heat Distribution Problems"

SP-1



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Davis, Brody, Juster and Wisniewski. Architects, 220 E. 23rd St., New York 10. N. Y.

Eliasoph & Berkowitz, Architects, 4950 Queen Mary Rd., Montreal 29, Que.

Kaiser Engineers — New York Executive Offices, 300 Park Ave., New York 22, N. Y.; Traffic and Expediting Offices, 620 Fifth Ave., New York 20, N. Y.

Harry L. Tooker & Associates, Architectural and Consulting Engineers, Suite 204, Pasadena Savings Bldg., P.O. Box 1005, Pasadena, Texas.

(More news on page 318)

OHE OF A SERIES OF IDEAS FOR YOUR FILES

ANOTHER NEW IDEA ...



WITH CORRUGATED ASBESTONE

Hanger walls of Corrugated Asbestone last a lifetime in extreme weather conditions

THE WEATHER that whips across open stretches of runway intensifies the beating that sidewalls and roofs must take. Gold Bond CORRUGATED ASBESTONE Standard "400" gives this hanger the weather resistance of rugged rock—at a surprisingly low cost.

Note how the light-and-shadow textures of Asbestone's corrugations blend with the vertical metal battens to make an architecturally pleasing facade. This hanger's roof is Gold Bond Asbestone, too. Walls and roof are fireproof, rot-proof and they never need maintenance.

How many uses can you think of for Gold Bond CORRUGATED ASBESTONE? Whether it's in remodeling or new construction, commercial or industrial, ASBESTONE creates striking good looks and permanence—means added protection and lower maintenance. Write for full details on this versatile, good looking material.

Address Dept. AR-76, National Gypsum Company, P. O. Box 5257-B, New Orleans 15, La.

Gold Bond Technical Bulletin No. 2032 and Booklet No. 2273 give full specification and use of Gold Bond CORRUGATED ASBESTONE Products.



CORRUGATED ASBESTONE

NATIONAL GYPSUM COMPANY

Gold Bond BUILDING PRODUCTS

THE RECORD REPORTS

(Continued from page 316)

SCHOOL INTEGRATES NORMAL AND HANDICAPPED CHILDREN

Architects Painter, Weeks & Mc-Carty were faced with a dual problem in designing the Fort Sanders Elementary School of Knoxville, Tenn. - a. small site with an incline of 28 ft from corner to corner, and the school board's program for integrating normal and



SAFETY on the NEW YORK THRUWAY

... ALUNDUM Terrazzo **Provides Walking Safety** in Restaurants

The New York Thruway Authority has provided safety for the motorist not only on the highway but also in the restaurants and gift shops. The floors are attractive terrazzo made permanently non-slip by ALUNDUM Aggregate, Neither spilled liquids nor moisture tracked in on stormy weather days will cause a slipping hazard.





ALUNDUM Terrazzo by DePaoli Mosaic Co. Boston, Mass.

For full information on ALUNDUM Aggregate for terrazzo floors and ALUNDUM C.F. Aggregate for cement floors consult SWEET'S FILE or write for Catalog 1935R.



NORTON COMPANY WORCESTER 6, MASS.

handicapped pupils in the same build-

Utilizing the change of level, the design puts the handicapped children on the ground floor, where they can enter the building at ground level at the back of the site. Other pupils will use classrooms, similar to those on the ground floor, on the first floor.

Another wing will have a playroom on the first floor and a cafeteria below that. The cafeteria, which will be partially excavated to obtain natural light and thus diminish the impression of a below-grade dining hall, will be shared by both handicapped and normal pupils. It will double also as a playroom for the handicapped children. The first-floor playroom will have a stage.

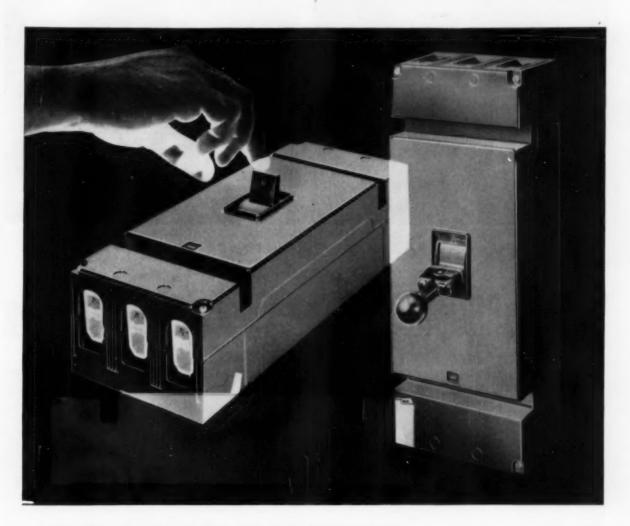
Besides classrooms and the cafeteria, facilities on the ground floor will include a kitchen, a special dining room, music room, teachers' lounge, patrol room and utilities. The first floor will contain one special classroom as well as regular primary and intermediate rooms, an office and conference room, a clinic, book storage and restrooms.

The building, which will be faced with a colored porcelain enamel, will cost an estimated \$11.80 per sq ft.

SCHOOL PLANNING WORKSHOP UNDERWAY AT U. OF COLORADO

The annual School Plant Planning Workshop, sponsored this year for the fourth time by the Department of Architecture and Architectural Engineering of the University of Colorado under the auspices of the College of Education, convened on June 18 at the Boulder campus; it will run through July 20. The workshop was set up to serve school administrators, members of school boards, architects and others interested in the design and building of elementary, junior and senior high schools.

(More news on page 322)



The Westinghouse Type M - only fully rated 800-ampere, molded-case circuit breaker...

Saves 3/4 cost of larger devices

Over a year of customer use, as an alternative to larger 800-ampere protective devices, has proved the economical advantage of the Westinghouse Type M AB De-ion* circuit breaker.

Whether you use it singly enclosed or in a switchboard, you'll find it can save 3/4 the cost of a larger air circuit breaker. Space or mounting economies may run the savings even higher—such as the use of this design in building compact distribution panelboards.

Though the smallest device of its rating, the new model will carry its full current rating in normal ambients even when enclosed—something other thermal devices cannot do. This feature of ambient compensation is useful in applications where standard units might unduly penalize system capacities. Both the Westinghouse true 800-ampere alternate and the standard thermal magnetic trip types are U.L. listed.

You owe it to yourself to get all the facts on the Westinghouse Type M circuit breaker. Get 'em today from your local Westinghouse sales office—or write direct to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-30214

WATCH WESTINGHOUSE!

WHERE BIG THINGS ARE HAPPENING FOR YOU

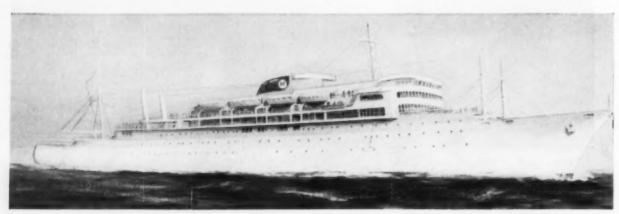


500-Room Hallywood Beach Hotel, Hollywood-by-the-Sea, Florida, was recently air conditioned, using a York TURBOMATIC system.



Ruskin Apartments, Pittsburgh, Pa., are air conditioned by a York TURBOMATIC system, making living more comfortable, healthful.

York TURBOMATICS make an air conditioning



Two Moore-McCormack liners, now being built by Ingalls Shipbuilding Corp., will be air conditioned with York equipment including TURBOMATICS. The system will help make trips to hot climates even more enjoyable.

Colgate-Palmolive Building, N.Y.C., is another new building air conditioned with York TURBOMATIC equipment.

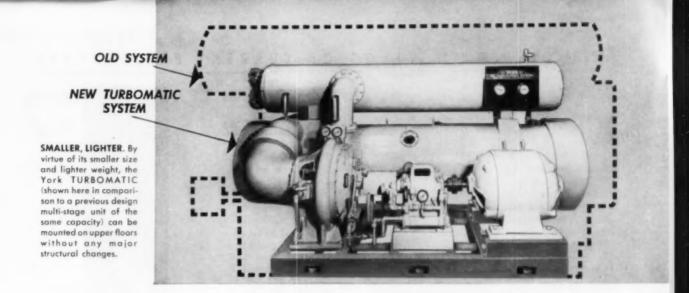


Dectors Building, Atlanta, Ga., is air conditioned with a York TURBOMATIC system supplying chilled water for the cooling.



The Dayton Biltmore, Dayton, Ohio, (a Hilton hotel) is air conditioned by the lightweight, smaller sized York TURBOMATIC unit.



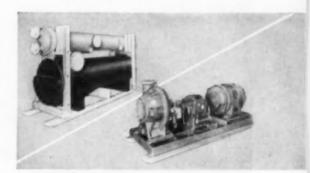


system lighter, smaller, more flexible

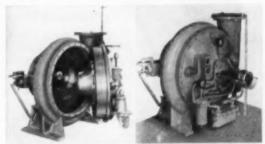
The heart of the York TURBOMATIC water cooling system for air conditioning is the TURBOMATIC compressor, a powerful single-stage unit of advance design. It gives users these important benefits:

- 1. Saves space, weight. A 350 horsepower TURBOMATIC system can be installed in 120 square feet of space. It weighs considerably less than former systems of the same capacity. This economy of size is important to the builder who wishes to conserve rentable space and to the architect who may wish to mount the system on a high floor without expensive load-bearing structural work.
- 2. Matches your power source. You can buy the TURBOMATIC system equipped with the motor of your choice, or you can use any other power source...a steam turbine drive, for instance.
- 3. Simple to operate and maintain. The TURBOMATIC compressor has only one-quarter the number of parts of previous units. It has a minimum of gasketed joints, and since it is automatic, it can easily be controlled as to need no attendant, even for starting and stopping!

York TURBOMATIC systems have already been proven in operation (see left hand page) and have established fine records for troublefree operation. For more information, get in touch with your nearest York sales office. You'll find the telephone number listed in your Classified Directory under "Air Conditioning Systems."



EASY INSTALLATION. The system is shipped on two skids, is practically ready-assembled. Customer may specify motor or use another power source.



ECONOMY OF DESIGN. York has streamlined the TURBOMATIC to one-quarter the number of parts in previous systems, making maintenance easier.



HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

the quality name in air conditioning

THE RECORD REPORTS: VIEWS OF CURRENT PERIODICALS

(Continued from page 318)

DESIGN, March 1956 (British), reported the 1955 Golden Compasses competition, a yearly (since 1954) program sponsored by La Rinascente, an Italian department store, to recognize good industrial design. This year the "Great International Golden Compasses" went to architect Marcel Breuer for outstanding contribution to industrial design; the "Great National Golden Compasses" were awarded to

Adriano Olivetti for the same service on a national level. A special jury, consisting of Sir Herbert Read, the Hon. Ivan Matteo Lombardo, president of the Milan Trienalle (for which the competition was originally initiated), Duke Tommaso Gallarti Scotti, president of the Milan Samples Fair, Umberto Brustio, president of La Rinascente, and Gio Ponti, architect and editor of the magazine Domus, made these awards.







Top: standing lamp designed by S. Castiglioni; center: armchair by Franco Albini; bottom: colored glass bowls by Umberto Nason



Another portion of the program awarded 12 of 20 available Golden Compasses to Italian manufacturers of designs sold in department stores; some of the premiated designs are shown here. Designers were awarded with a "plate of honor" and 100,000 lire (about \$160).

COMPETITION

AWARDS

Second Prize 2,500.00 Third Prize 1,000.00 3 Honorable Mentions (each)

DATES

Competition opens May 10, 1956 Last date for filing entries August 1, 1956 Competition closes October 1, 1956

APPROVAL

The Program and method of procedure have been approved by the Committee on Architectural Competitions of the American Institute of Architects.

SPONSORED BY

THE NATIONAL COMMITTEE ON THE AGING of the NATIONAL SOCIAL WELFARE **ASSEMBLY** under a grant from the FREDERICK AND AMELIA SCHIMPER FOUNDATION.

in conjunction with the ARCHITECTURAL RECORD and THE MODERN HOSPITAL

for the design of a HOME FOR THE AGED for 100 residents

ENTRY FORM

Professional Adviser Home for the Aged Competition Suite 517 1145 19th Street, N. W. Washington 6, D. C.

Please send me the program of the Home for the Aged Competition.

NAME (Please Print) ADDRESS COLLABORATORS (if any)

there's a RIXSON concealed closer or pivot set for every door

ENTRANCE • VESTIBULE • INTERIOR

According to your requirements in appearance, hanging style, function and construction detail, YOU CAN SPECIFY RIXSON THROUGHOUT.

offset hung	offset hung	center hung	butt hung
nos. 18 · 20 · 25 single acting floor type	UNI · CHECKS nos. 65 · 66 · 67 · 68 single acting floor type	nos. 18½ · 21 · 26 single acting floor type	nos. 318½ · 321 · 326 single acting floor type
for entrance, vestibule and interior doors—where full unobstructed door opening space and wide door swing (to 180°) are important. Special styles are available for fire doors and x-ray room doors. Arm locking arrangementallows vertical adjustment of door.	for interior room doors—where full unobstructed door opening space and wide door swing (to 180°) are important. Depth of 2 ¹⁷ /21° (including cement base) to suit shallow floors. Special styles meet Underwriters' Laboratories approval for fire doors.	for entrance, vestibule and interior doors—where concealment of both closer and door hanging hardware is desirable when door is open or closed. Ideal for batteries of doors. No mullions required, allowing utmost use of entrance area.	for entrance, vestibule and interior doors—where it is deairable to have door hung independently from closer. RIXSON ball hing- es, featuring vertical ad- justment, are generally specified for door hanging.

leverage, pivotal hung doors are more securely attached—less apt to pull away from the jamb.



closer and expose the beauty of the door

center hung

center hung

butt or center hung

offset and center hung

MATCHING PIVOT SETS

nos. 117 · 1171/4 · 1171/2

nos. 30 · 40 double acting floor type

DUO - CHECKS nos. 10 · 12 · 15 · 16 · junior double acting floor type

nos. 2181/2 · 221 · 226

single acting verhead concealed

nos. 218 · 220 · 225

L117 · 1173/4 single acting concealed

for entrance, vestibule and interior doors that swing both in and out with each swing separately adjustable to local wind and draft conditions. Both the closer and door hanging hardware are completely concealed.

for interior room doorswhere double door swing and complete concealment of door hanging and closer hardwere are desirable. These closers are ideal for hospital and restaurant doors where people pass through with hands occupied.

for entrance, vestibule and interior doors-where it is desirable to conceal closer in jamb above door. Compact size, 2%" x 2%" x17", makes closer ideal for modern, narrow trim installations. RIXSON adjustable ball hinges are recommended for use with No. 218 series.

for pivotal door hanging only. Match the hanging style and general appearance of doors with RIXSON offset or center hung closers. Widely used on inactive doors such as on closets and wardrobes. Styles available for all doors from the lightest to the heaviest.

write for full information on any RIXSON device

THE OSCAR C.



COMPANY

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THE RECORD REPORTS CURRENT PERIODICALS

(Continued from page 322)

BAUWELT, February 27, 1956 (German), indicated in its special issue, playfully titled "Opernhäuser, Opernhäuser . . . ", that the Germans have not forgotten their opera in the rush of postwar reconstruction. So far opera houses have been rebuilt or built anew

in Vienna, Hamburg and East Berlin, and more are either in plan or under construction in West Berlin, Dresden, Leipzig, Munich, Mannheim, Cologne, Düsseldorf and "many other cities."

In spite of the opera's being, said Bauwelt, a "Baroque art form," few of the opera houses are designed in an historical style. The Vienna Opera was left a shell after it was hit by an incendiary bomb in 1945 and the Viennese simply built a new interior along the lines of the old, though far less "Baroque." The East Berlin opera house

Fountains



Bauwelt called the Hamburg Staatsoper (above and below) "the new form in opera houses"; Gerhard Weber was the architect







Abore: first prize winner in West Berlin's competition for a new opera house was a design by Frilz Bornemann. Below: the East Berlin Staatsoper Unter den Linden, by architect Richard Paulick



is a postwar design reflecting the policies of an organization with the unwieldy title of the Society for the Preservation of the Cultural Heritage of the German Past.

Bauwell rather ruefully commented, however, that the operas chosen to open the completed buildings, whether Baroque or un-Baroque, were anything but 20th century - the Vienna Opera opened with Fidelio, the East Berlin Opera with The Meislersinger, and the Hamburg Opera with The Magic Flute.

(Continued on page 328)

INSULATION News from L.O.F GLASS FIBERS COMPANY



How vinyl-faced Super·Fine benefits both client and contractor

Because of vinyl-faced Super Fine insulation's high thermal efficiency and effectiveness in helping to prevent condensation, Theodore Rogvoy (A.I.A.) and David J. Zabner (M.E.) selected it to wrap cold-air ducts in Detroit's Eastgate Shopping Center.

Super Fine insulation is available with vinyl or other reflective and plain vapor barriers extended to form tabs. Super Fine is made of fine glass fibers which form millions of dead air cells—effectively reducing both loss and

gain of heat. These inorganic fibers will not support combustion, absorb moisture, rot, settle or decay. This assures your client long-lasting and efficient insulation.

Contractors know that blankets of Super Fine insulation are strong, light weight, pleasant to handle and easy to apply.

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TOLEDO 1, OHIO

Makers of glass fibers by the "Electronic-Extrusion" process

THE RECORD REPORTS CURRENT PERIODICALS

(Continued from page 326)

ARCHITECTURAL DESIGN, March 1956, THE ARCHITECTS' JOUR-NAL, March 1, 1956, and DESIGN. March 1956 (all British), came up with a "house of the future" designed by New Brutalists Alison and Peter Smithson which is likely to make the rounds of other European journals before the end of the year.





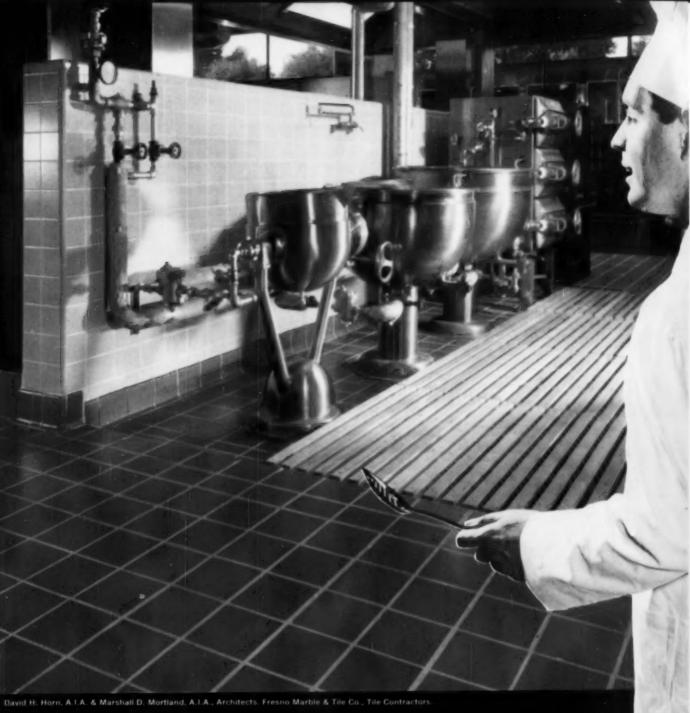
Designed for a London homes exhibition, the building has an exterior wall of molded plastic, which was planned to be windowless but which had sections cut out for viewing. A central garden is enclosed by a clear plastic wall. The roof is "warped" to allow the sun to fall into the interior, and is covered with aluminum foil on a waterproof base to reflect the sun. The rooms are "cave"-like compartments, connected by passages twisted to lend privacy to each area.

CRAFT HORIZONS, May-June 1956 (United States), devoted a special issue to "art and craft in architecture today." The picture that the magazine gave was one of utter lack of sympathy between contemporary architecture, arts and crafts. Lest the picture be too hastily dismissed as one drawn by an interested party, it might be pointed out that contributors to the issue included architects Herbert Hannum, Ladislay Rado, Mario Corbett, Ely Jacques Kahn and George Nakashima, city planning critic Christopher Tunnard and, the only representative of the crafts, metalsmith Hudson Roysher. Mr. Roysher, furthermore, was the only one of the contributors to put the greater blame on the artist, who, he said, is apt to disdain business matters.

Harshest of all the critics was Mr. Nakashima: "I have never seen such a dishonest use of materials as by American architects in a house under construction - the way it's put together before the skin is on. These people talk well, write reasonably well, but what they say and what they do are entirely different."

Mr. Tunnard, less harsh, said that ". . . no creative person who is familiar with great art can be content with the current separation of architecture, painting and sculpture. The reintegration is the sublime responsibility of today's artist - the rest is fun and games.'

(More news on page 346)





GLAZED WALL TILE

CARLYLE QUARRY TILE

MOSAIC The only complete ceramic tile line

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THE RECORD REPORTS WASHINGTON TOPICS

(Continued from page 48)

drawings prepared by or for the principal contractor or subcontractors.

- Preparation of all necessary large scale and full size details.
- Cooperation and consultation with the government in the taking of bids and the making of the lease-purchase award.
- The coordination of activities of the government, successful bidder, contractors and architect.
- 10. Supervision of all phases of the work during construction including, but not limited to, supervision of architectural, structural, electrical, mechanical, plumbing, heating, air conditioning, civil engineering, site planning and landscaping work.
- Interpretation of drawings and specifications in order that the meaning shall be faithfully carried out.
 - 12. Preparation, upon completion of

the project, of a complete set of "as built" drawings and specifications which will reflect all revisions and/or changes made to the original documents during the course of the work.

The architects will be reimbursed by the government for cost of topographic surveys, test borings, test pits, soil tests and other subsurface investigations that might be required. Compensation will be on a fixed fee basis. The Post Office Department provides schematic drawings outlining requirements (AR, Nov. 1954, page 12).

First 27 Projects

The first 27 projects on which the Department was ready for bids last month were as follows (with estimated costs and architects):

Atlanta — post office and garage, \$179,000, Abreu and Robeson Inc.; Brooklyn — East New York station, \$270,000, Lorimer Rich and Associates; Denver — terminal annex, \$4,335,000, Temple H. Buell & Co.; Point Pleasant, N. J. — main post office, \$68,750, Kramer, Hirsch and Carchidi; Scranton, Pa. — Dunmore branch, \$60,000, Von Storch, Evans and Burkavage; Oxford, Pa. — main post office, \$65,000, Richard H. Peterman.

Also St. Mary's, Ohio - main post office, \$82,500, Strong, Strong and Strong: Garland, Tex. - main post office, \$143,750, Thomas, Jamison and Merrill; Grand Prairie, Tex. - main post office, \$175,000, Smith and Warder; Two Harbors, Minn. - main post office, \$66,250, A. Reinhold Melander; Hudson, Mass. — main post office, \$90,000, Aldo A. Minotti; Onlonagan, Mich. main post office, \$61,560, Basso and Tonne and Associates; Cashmere, Wash. main post office, \$54,687, Alvin Sanford Erickson; Grundy, Va. - main post office, \$50,000, Pearson, Hill & Sullivan.

Also Madison, Tenn. — main post office, \$78,125, Steinbaugh and Associates; Newkirk, Okla. — main post office, \$56,250, Dow Gumerson; Jefferson, Ohio — main post office, \$78,125, Fulton, Krinsky and de la Motte; Refugio, Tex. — main post office, \$78,-125, Richard S. Colley; Camden, N. Y. — main post office, \$86,250, Bice and Baird; West Memphis, Ark. — main post office, \$93,750, Elmer A. Stuck and Associates.

Also Houston — main post office, \$7,100,000 (architect not selected); Maplewood, N. J. — main post office, \$246,450, Alfred O. Pollitt; Skanealeles, N. Y. — main post office, \$79,875, (Continued on page 332)

this unique Schlage

"FRICTION RING"

"FRICTION RING"

means shock-proof,
lock installations

With this cleverly designed "friction ring"* the inside rose of Schlage heavy-duty locks resists unintentional loosening...can never back off from door surfaces. After the inside rose is installed, the ring's white vinyl teeth are turn-resistant to the jarrings of

With this cleverly designed "friction ring"* the inside rose of Schlage heavy-duty locks resists unintentional loosening...can never back off from door surfaces. After the inside rose is installed, the ring's white vinyl teeth are turn-resistant to the jarrings of daily door operation. Result — no more loose inside roses and bothersome lock rattles. Yet, under intentional unscrewing of the inside rose, the same flexible gear teeth do an about face ... and the lock is quickly, easily removed from the door.

This built-in "friction ring" is typical of the plus features received when you specify Schlage heavy duty locks ... only one of the many reasons Schlage's outstanding lock designs are the quality standard for commercial and institutional buildings throughout the world.

For the latest technical information on Schlage locks, contact your Schlage representative or write for Catalog ≈627-A-7.

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It holds any combination of 2 full-sized SINGER® Machines and provides working space for two more students. With complete sewing needs right at hand, students never have to wait for work space!



Fits more machines into limited space!

Now there's no need to waste space with separate machine cabinets and cutting tables. Machines lower into the SINGER Table... removable panels slip into place... and presto!

There's a smooth, continuous surface for pattern pinning and cutting! Students needn't shift from machines to cutting tables. Noise and confusion are eliminated...teaching is more efficient.



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- Drop leaf for extra space. (Second leaf available for other end if desired.)
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- · All metal parts grounded.
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- Table available in beautiful blond or dark wood.
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Position			
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Street			
Clau	7	State	



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THERE'S ONE NEAR YOUR SCHOOL

A Trade-Mark of THE SINGER MANUFACTURING COMPANY.

THE RECORD REPORTS WASHINGTON TOPICS

(Continued from page 330)

Beardsley and Beardsley; Newlown, Pa.
— main post office, \$53,125, F. W.
Lantx; Toronlo, Ohio — main post office, \$53,125, Robert F. Beatty; New
Richmond, Wis. — main post office,
\$85,200, Grant J. Paul; Fort Mill, S. C.
— main post office, \$49,800, Gilchrist
and Cook.

FHA REVISES ITS RULES ON 203 HOUSING; OTHER MOVES

In one of the most significant changes to date in its interpretation of its rules and regulations for evaluating Section 203 housing for mortgage insurance purposes, the Federal Housing Administration has loosened to some degree the reins on architectural and valuation personnel.

The move is particularly important because it affects existing housing and in that respect ties in with the agency's new efforts in the field of urban renewa and rehabilitation.

No longer are evaluators bound as strictly by the requirement that existing properties must meet in every respect the stipulations in the Minimum Property Requirements. In adding what it called "a more definitive approach," FHA set forth three general divisions of (Continued on page 334)

WHAT IS A BRICK? AND HOW THICK IS AN INCH?

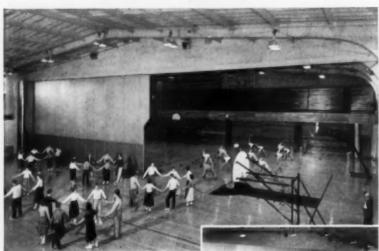
Two agencies of government have come up with studied definitions of matters the non-cognoscentimay take for granted.

The Federal Trade Commission last month announced its new trade practice rules for the brick and structural clay tile and allied products industry - the rule is that no product shall be designated as "brick," "tile," or "structural tile" unless it is composed primarily of clay or shale or a mixture of these materials fused together with application of heat. Products of other ingredients such as concrete, plaster and sand-lime - may be designated as brick only if the word "brick" is prefixed with a descriptive adjective or the fact that nonceramic products are being described is disclosed.

The Federal Housing Administration finally agreed, at least for the time being, to accept the West Coast Lumbermen's Association answer to the question: How thick is an inch? The issue was actually the standard to be applied to the dressed thickness of nominal onein. board lumber; new grading rules issued March 15 by the West Coast Lumber Inspection Bureau departed from the 2532-in. thickness generally accepted since 1924 in accordance with American Lumber Standards and reduced the measurement to $^{24}32$ in. This conflicted with FHA requirements as well; and a mightier furor was never caused by 132 in. than followed for the next several weeks. In the end, the American Lumber Standards Committee, which sets standards for the whole lumber industry, revised its standards to accept the 2432-in. minimum. FHA followed suit.

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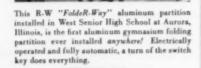
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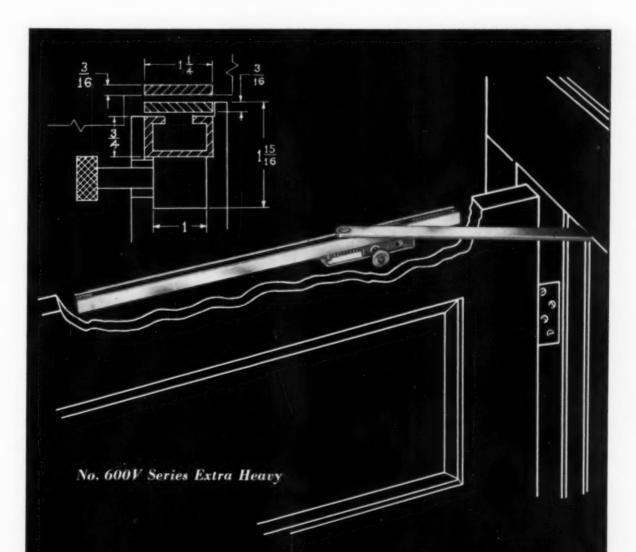
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 332)

the stated objectives of the Minimum Planning Requirements and Minimum Construction Requirements. These are (1) safety and health; (2) structural soundness and durability; and (3) livability.

The new development does not mean that the MPR's are losing any of their

importance, an FHA official explained. It means that certain requirements more applicable to new and modern homes no longer need to be the cause of rejecting existing homes for FHA mortgage insurance. Putting it another way, he said that such things as over-all structural soundness, future market value, etc., will be considered for evaluation purposes ahead of more minor requirements such as width of hallways, etc., under Section 203. The new interpretation may have even wider application in determining eligibility of existing con-

struction under other sections of the National Housing Act.

Action on Other Fronts

In another recent move, the Federal Housing Administration took administrative action applying the maximum allowable insurable mortgage amount to Title VIII military housing. The total mortgage amount FHA will insure in the program will not exceed \$13,500 times the number of family units less the value of any usable utilities within the boundaries of the project. Exceptions were noted for Alaska, Hawaii and Guam.

FHA also approved a trade-in program which gives government blessing for the first time to the principle of trading in a used house for a new one. The mortgage insurance program was broadened to include the issuance of firm commitments in cases of existing properties, applying where the used house is offered for sale. Under this system mortgagors can assist home owners who desire to use the equity in their present houses as down payment on another home better suited to their needs and desires, FHA said.

New Assistant Named

FHA Commissioner Norman P. Mason also announced the appointment, effective June 1, of Cyrus B. Sweet, Assistant Federal Housing Commissioner for Title I, as Assistant Commissioner for Operations. Mr. Sweet succeeded Charles S. Mattoon, who has been ill for some time. The latter will be assigned to new duties when he returns to FHA, Commissioner Mason explained.

INDUSTRY OPPOSES BILL ON AEC POWER REACTORS

Initial attempts in Congress to legislate authority for the Atomic Energy Commission to build nuclear power reactors directly have met with a cold response from industry. Private spokesmen say the government's construction of such facilities would be a needless duplication of industry's own program, going forward now under the guidance of the AEC.

Sen. Albert Gore (D-Tenn.) introduced a bill which would provide for construction of six power reactors by the Commission in different geographical regions of the country at an estimated cost of \$2 billion.

Spokesmen for the Edison Electric Institute and the National Association (Continued on page 336)



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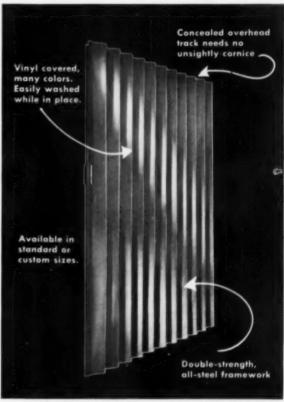
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(Continued from page 334)

of Manufacturers immediately explained to the Joint Committee on Atomic Energy that such a program would duplicate the industry effort.

Referring to industry's intention to build nine different prototype power reactors, one witness stated: "This entire program represents solid demonstration by private enterprise of its willingness to proceed as rapidly as appears technologically sound.

The businessmen believe that no time can be gained by a parallel Federal government program unless it were carried forward on a crash basis.

HOUSING RESEARCH RETURNS IN BILL PASSED BY SENATE

The omnibus housing bill passed by the Senate last month would restore housing research to the Federal program by authorizing Housing and Home Finance Agency contracts with public and private research organizations of up to \$500,000 in fiscal 1957 and \$1,000,000 in each of the following two fiscal years.

Residential design, assembly methods and materials (in relation to cost, utility and comfort) are among the specific research projects HHFA would be directed. to undertake. Others: housing for the aging; characteristics of current and prospective housing market demand; housing inventory of the nation; mortgage market problems; extent to which adequate housing is available to the low- and middle-income families of the nation through public and private

The housing bill reported last month to the House by its Banking Committee contained no such provision for housing research.

MILITARY HOUSING REPORT: CAPEHART TOTAL AT 64,947

The government's military housing program is big business. The Defense Department announced in May that it had approved 64,947 units at 157 different installations under the Capehart housing program. These are scattered throughout the country. The FHA, which provides 100 per cent mortgage insurance on housing of this type, has established certain architectural processing rules which give a pretty free hand to the military. It has been decided by top FHA officials (AR, March 1956, pages 366-368) that since the military interest is paramount, they will serve as advisers only and defer to the wishes of the Defense Department in all matters of design and construction. This also, it is hoped, will avoid delays which might otherwise arise from conflicts of opinion.

Under terms of the Capehart program, the military contracts for the services of an architect-engineer who provides services in two parts: (1) the preliminary phase involving consultations and the preparation of preliminary sketches, typical floor plans, elevations, sections, preliminary site development plans and cost estimates in a form acceptable to FHA, and (2) development of drawings and specifications through their final state of completion as contract documents. The FHA guidance consists of suggestions as to most acceptable and appropriate type of housing and development conforming at the same time with the Defense objectives.

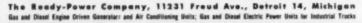
(Continued on page 350)

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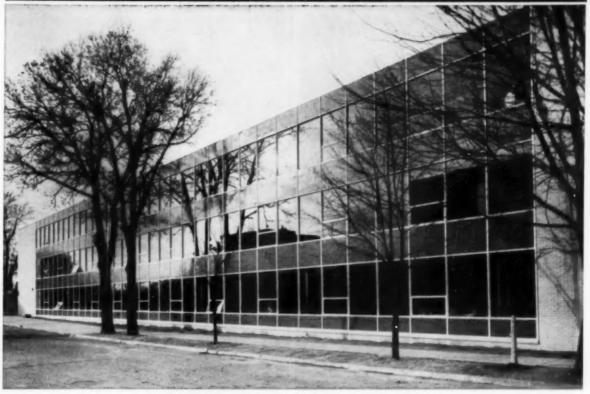


ARCHITECTS: For complete information on electric plants, refer to **Ready-Power Specification Pages** in Sweet's Architectural File. Write for Bulletin 279-2.



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WASHINGTON TOPICS

(Continued from page 336)

ICBM AND CIVIL DEFENSE: SHELTERS MAY BE VITAL

Will the Federal Civil Defense Administration again have to change its attitude toward on-the-spot shelter construction because of the advance of modern weapons? Through the post-war years, the agency has shifted between the two extremes of total local shelter and total evacuation as defense against nuclear weapons. FCDA is presently riding a middle course with what it calls "a well-balanced concept" between evacuation and shelter.

But FCDA now must reckon with the intercontinental ballistic missile. FCDA Administrator Val Peterson, former governor of Nebraska, told a House Government Operations subcommittee that evacuation would be almost impossible with the amount of time available before such a weapon would strike.

"Right now we have a balanced concept between shelter and evacuation," he stated, "but with the advent of newer weapons such as the ICBM, any kind of a shelter might be better than evacuation."

Mr. Peterson has decided, however, that his agency will not request appropriations for shelter building until it has more positive information on new weapons and on existing warning devices.

The subcommittee's chairman, Rep. Chet Holifield (D-Calif.), is all for starting a multi-billion dollar shelter construction program now for the entire United States.



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139 SMALL TOWNS HAVE URBAN RENEWAL GRANTS

A growing number of American communities — smaller places of less than 25,000 — are looking forward to the development of master comprehensive community plans. At last count, 139 of these localities were being helped by Federal grants under the Urban Planning Assistance Program.

The aid comes to them through state planning agencies and consists of up to 50 per cent of the cost of the projects involved. In addition to comprehensive master planning, the work covered often includes particular needs of the individual community in programming a healthy urban environment leading to prevention of slums and blight. Such work might cover preparation of base maps, studies of economic conditions and population trends, preparation of plans for streets, parks and recreation facilities, and preparation of zoning and subdivision regulations.

FHA AVOIDS RIGID RULE ON PROPERTIES NEAR AIRPORTS

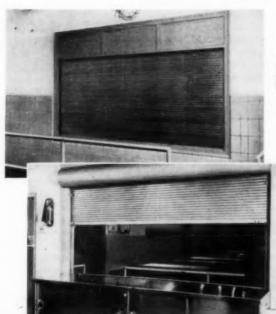
The Federal Housing Administration is not going to be arbitrary in its analysis of residential properties near airports for valuation purposes.

Field directors have been told by Deputy Commissioner Charles E. Sigety that establishment of arbitrary lines or zones and their delineation on maps is a rigid and undesirable practice.

The agency is aware of the problems inherent in jet age developments and has informed its field personnel of efforts being made to overcome noise problems both by industry and government. Meanwhile, it views as unwork-

(Continued on page 342)

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WASHINGTON TOPICS

(Continued from page 340)

able any attempt to rate precisely by mathematical formula the risk in all situations. Each case is to be judged on its own merits.

Field offices will complete "a sufficient number" of established ratings of location within outlined neighborhoods adjacent to airports. These will provide the FHA offices with adequate "benchmarks" to assist valuators in rating locations submitted in actual applications for mortgage insurance.

Mr. Sigety said that the effect of aircraft activity on the value of a particular location would be reflected in the rating of location grid by comparison with other locations improved with or appropriate for structures competitive with those that are typical of the neighborhood.

Beyond this, as FHA sees it, however, some locations may warrant reject rat-

ings; others may show a high degree of risk and yet not justify rejection.

ADDENDA

OBVIOUSLY UNIMPRESSED by the most concerted opposition the architectural profession has marshalled for many years, the House of Representatives on May 29 appropriated \$12 million to start work on the extension of the East Front of the Capitol. If the Senate approves this item of the annual legislative appropriations bill, the hope of those who, led by the American Institute of Architects, have opposed this approach to solving space and circulation problems of the Capitol will remain with the advisory group of private architects appointed in April (AR, May 1956, page 48) "to assist the Architect of the Capitol (David J. Stewart) in determining the proper architectural treatment of the East Front of the Capitol and the necessary changes to be made on the interior of the building."

Guided Missile programs will mean bigger and bigger requests for construction funds from the Air Defense Command, Congress was told by Gen. Earl E. Partridge, ADC commander-in-chief. Appearing before the Senate Subcommittee on Air Power, General Partridge added this would be especially true of radar for the intercontinental ballistic missile. ADC got \$319 million (of \$321 million requested) in fiscal 1955; the same in fiscal 1956; this year the asking was \$509 million and indications are this will be cut to \$268 million. The fiscal 1958 anticipated request: \$758 million.

U. S. COLLEGES AND UNIVERSITIES are prepared to spend \$66.6 million over the next six years for improvement and expansion of ROTC facilities, provided matching funds are made available by the Federal government, according to a survey made public by the American Council on Education. Only 45 of the 250 institutions reporting indicated they now have plans under way. Opinion of legislation currently under study by the Department of Defense—this would provide for 50–50 Federal college financing—was 95 per cent favorable.

The National Gallery of art has a new director—John Walker, chief curator since 1939, succeeded David Finley upon his retirement July 1 after 17 years as director.

(Continued on page 344)



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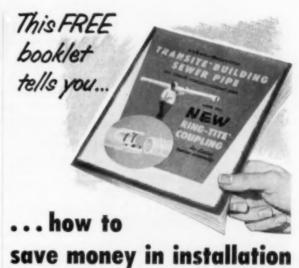
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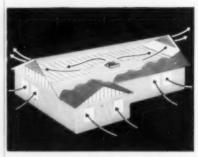
The typical new house on which FHA insured a mortgage during 1955 had an area of a little more than 1020 sq ft—topping the 1000-sq-ft mark for the first time since FHA has been keeping area records. Among other characteristics of the "typical" house, as revealed by data assembled for FHA's annual report: it had five and a half rooms (three bedrooms), cost \$11,750, with an FHA-insured mortgage of slightly over \$10,000; had an owner whose income was "nearly \$5500" (down \$200 from the 1954 figure).

WHEN THE HOUSE APPROPRIATIONS COMMITTEE report on civil works funds for fiscal 1957 appeared in May, it accused the Army Corps of Engineers of going beyond its capabilities. No dishonesty was implied, it pointed out, but the committee said it was "utterly amazed to learn that the same Engineers have told members of Congress . . that next year they could use additional unbudgeted funds on more than 100 projects totaling over \$65 million." The Army Corps of Engineer officials, it seems, testified during the appropriations hearings that they had been unable to keep the huge construction program on schedule, due mainly to the appropriation of funds for unbudgeted projects. It would appear the construction money has been coming faster than it could be used.

THE ARMY CORPS OF ENGINEERS has been averaging about seven or eight bidders on large civil works projects, and as many as 20 on some of its smaller jobs. Col. J. L. Person, a division engineer, told Congress the range of bids has proved quite extensive, about 20 per cent between highest and lowest. The Corps believes all the bids received during the current fiscal year have been authentic bids as contrasted with "complimentary" bids sometimes submitted by contractors. The fiscal 1956 bids have been higher than those of fiscal 1955 due to increased materials and wages costs. The bids on buildings have been increasingly high and are going still higher, Colonel Person testified. Gen. E. C. Itschner, assistant chief of engineers for civil works, agreed, estimating that construction costs increased about five per cent each of the past three years.

(More news on page 346)





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REVIEWING THE RECORD

(Continued from page 328)

Footnotes to architectural history, from the ARCHITECTURAL RECORD of 1906:

Pearls from the pen of Russell Sturgis. writing ostensibly of factories and warehouses in May - "He is no true student of architecture who does not love bricks and stones for themselves - for their weight, their permanent squareness, their sharp-edged and flat-bedded quality". . . . "A building may be good and permanently interesting without grace; and that is fortunate for us, because grace is about the last thing which the twentieth century can get. It is only the constant student of nature, the man who draws or models all day as a student of Life who has any knowledge of grace. The decorative designer as such has had it cut off from him by two centuries of deterioration". . . . "It is bitterly to be regretted that we are not allowed to show our iron structural elements. It is greatly to be feared that, so long as we are compelled to cover them up to the absolute concealment of their form, buildings in which metal enters as of important constructive importance [sic] can never become interesting as architecture."

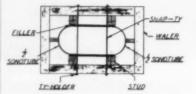


A precursor of Nervi et al., in a primitive sort of way, was the unnamed designer of a concrete office building for, of all people, the Illinois Steel Company of Chicago (above). The writer in the RECORD's Notes and Comments column for May was all in favor of the new material. "There can be no doubt that during the next generation this and similar forms of cement construction will become very popular, because a builder probably can, under all ordinary conditions, obtain this way an extraordinarily good result for his money," he commented, but felt constrained to add that "the difficulties which the advocates of (Continued on page 348)

THE RECORD REPORTS FORMING FACTS for ARCHITECTS

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THE RECORD REPORTS REVIEWING THE RECORD

(Continued from page 346)

concrete will have to overcome concern rather the architecture of these buildings than their construction. Concrete has so many good special qualities of its own that the designer of a concrete building should not try to produce effects which can be more perfectly obtained in stone; he should rather use forms expressive of the more plastic and fluid nature of his material."

Daniel Burnham's plan for San Francisco, as reported in a story written by Herbert Croly "before the occurrence of the recent earthquake and conflagration" but allowed to stand anyway, was, said Mr. Croly, "a sketch of the preliminary layout rather than that of the triumphal edifice." It dealt mainly with traffic patterns - attempting to ameliorate the "practical inconveniences" of the grid plan already adopted - and with land use, giving particular attention to green areas - Burnham hoped to transform the tops of all of the hills into parks. In a postscript the author added his hope that San Franciscans would turn the April disaster into an "opportunity for realizing more quickly some of the essential parts of Mr. Burnham's plan."

Ventilation, before the advent of air conditioning, was doubtless a vexatious problem, and a writer in the June Notes and Comments column implied that architects were not doing their share in solving it. "A majority of our buildings," he complained, "are, in this matter, precisely where the cave dwellers left them — no worse, perhaps, but certainly not much better off. "

(Continued on page 350)



McKim, Mead & White, as busy as ever, had completed the Morgan Library and Art Museum in New York, subject of a photo story in the May 1906 issue of the RECORD



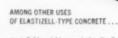
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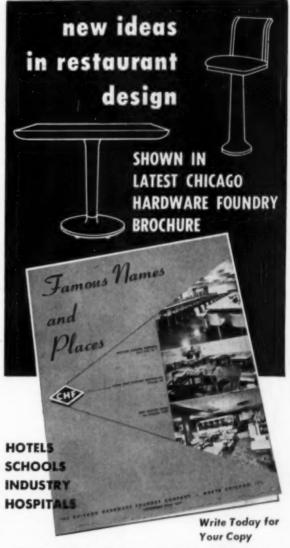
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THE RECORD REPORTS REVIEWING THE RECORD

(Continued from page 348)

Building Type, ca. 215 A.D.: "Let us take the example of the Roman Thermae," suggested Jean Schöpfer in an article on "Roman Art" in the June issue of the RECORD, "There could not be any harder problem for an architect. than the plan of these Thermae, considering all that the inhabitants of imperial Rome required of such an establishment. A large number of people had to be accommodated there, and consequently an extensive space was necessary at the entrance. Then there had to be two large swimming baths, one cold, the other hot: rubbing rooms, sweating rooms (sudarium), private bathrooms for invalids; bath-rooms for women, each preceded by an ante-chamber, and in most cases a portico was erected before the bath-rooms. At the entrance there had to be an admirably arranged vestiary. There had to be rooms for those bathers who wanted to have their bodies oiled. Inside the Thermae there had to be gymnasiums, meeting rooms and reading rooms; outside the edifice, but within the grounds there had to be walks, porticos, a sladium for racing, fountains and gardens." To indicate the magnitude of these buildings, the RECORD had a drawing made of the Frigidarium of the Baths of Caracalla as Viollet-le-Duc had reconstructed the original, and published the drawing alongside a photograph of the same room as it appeared 17 centuries later (below). Et sic transit gloria mundi!







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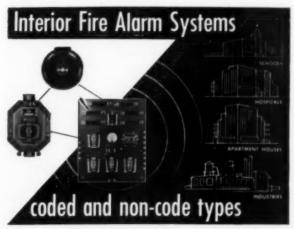
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(Continued from page 60)

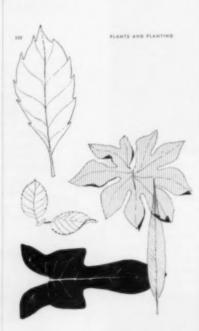


discusses "enrichment"—the art of making your living space "rich, warm, intimate, domestic, colorful, imaginative" without achieving clutter and confusion. Plants, water, rock, animals, lighting, garden furniture, acoustics, fireplaces, color and art are all discussed in detail and with sense in this chapter.

All points the author takes up are illustrated with many useful photographs and often emphasized with the skillful line drawings of Carlos Diniz.

This review is a result of a discussion with a house-architect and an amateur home landscaper. Both read the book with great interest and both declared that it is a must for their respective cults.

M. B.



(Continued on page 354)



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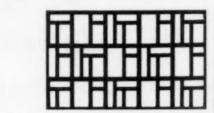
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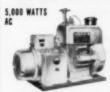
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REQUIRED READING

(Continued from page 152)

DUTCH ARCHITECT OF NOTE

W. M. Dudok. Edited by R. M. H. Magnee, G, van Saane "lectura architectonica" Amsterdan and F. G. Kroonder (Bussum) 1954. 168 pp, illus. \$10. American distribu-tor: Wittenborn & Co., New York City

This book, deserving more space than we are able to give it, is a thorough report on the development of Willem M. Dudok as an architect and city planner. It records, pictorially as well as editorially, the artist's growth from 1915 to the post war years in Holland, when his ability as a planner became internationally acclaimed and for which he was awarded the A.I.A. Gold Medal in 1955.

CHRISTOPHER WREN

Wren and his place in European Architecture, By Eduard F. Sekler, The MacMillan Company (New York), 1956, 217 pp., Illus.

BY DIANNE THOMAS

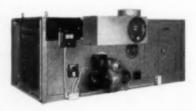
Chaistopher Wren, mathematician, astronomer and architect, was born in 1632, at Wiltshire, England, in the midst of great political, philosophical and spiritual upheavel in Europe. His architecture, a product of the time, the place, and the man, stands today a landmark amid the rich vistas of our architectural heritage.

In a new book by Eduard Sekler, distinguished Austrian architect and city planning consultant, Wren's work is analyzed from an eclectic approach; that is, it is studied in its relationship to the orb of influences surrounding Wren.

Sekler's motivation is to clarify Wren's position in European architecture by showing his work was neither an isolated, national phenomenon nor a purely derivative offshoot of Continental architecture, Rather, Sekler classifies it as an original achievement reflecting European attitudes as a whole, past and contemporary. Wren's personal philosophy and character as expressed in his architecture are also given considerable attention by Mr. Sekler.

The author sees Wren as an outstanding intellect with a more than average talent, bound to the traditions of his country and at the same time a product of the intellectual and spiritual climate of his age. Deep-rooted religious

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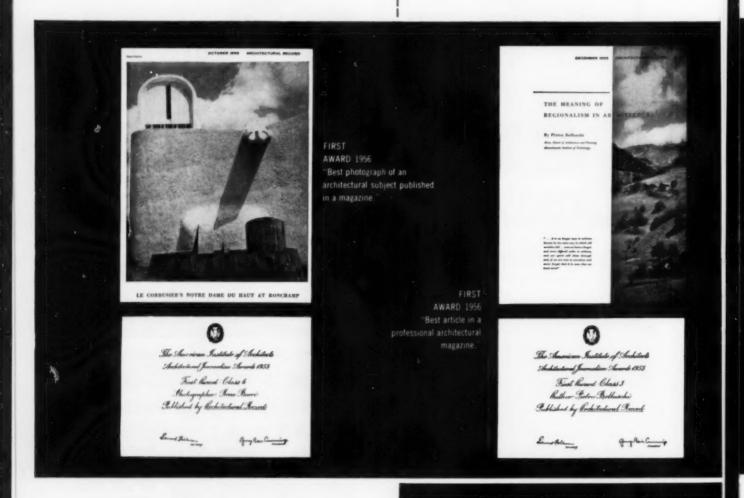
See AIA File 4-L and Sweet's Cat. 2e/Ha. *Reg. U. S. Pat. Off. ELOF HANSSON, INC., Acoustical Bopt. 7-6-1 711 THIRD AVE., NEW YORK 17, N. Y.

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REQUIRED READING

(Continued from page 354)

convictions vs. rational inquiry was the conflict of the times, and Wren's enthusiastic interest in both sides of the fence produced a conscious ambiguity that he never quite resolved, though he strove ardently to strike a logical balance.

A distinguished mathematician, Wren naturally paid homage in his architecture to geometrical forms. Sekler points out that in a number of cases the main lines of his designs coincide with simple geometrical figures. Wren's theory of the "natural beauty" of the straight line and geometrical shapes derived therefrom is similar to Plato's theory of the beauty of form. This armed Wren for the 17th century art and architecture dispute between Anciens and Modernes - those who followed religiously the traditions of beauty established by antiquity and those who followed the less universal concept of beauty which corresponds with the age in which one lives.

Sekler traces Wren's most powerful Continental stimulus to France, where Wren traveled during his early years. In nearly all of Wren's major works Sekler sees reflections of French architectural conceptions, but well-blended with English traditionalism and Wren's own style.

Wren's major projects, including town planning, city churches, St. Paul's Cathedral, and several secular buildings are analyzed for possible influence, historical significance, effect of design. The analysis is extremely comprehensive and adds invaluable knowledge to the store of information on Wren and his architecture. But in skipping over the "already-known" to concentrate on new evidences, there is a tendency to isolate from context elements in each design and leave hanging by a thread the basic motivation and philosophy behind the design.

Sekler had a point to make, and this he does admirably. He employed material already available, including original drawings discovered in 1951, plus Wren's own writings. Profusely illustrated, the book includes a whole series of photographs and a number of reproductions of Wren's own drawings.

This book is designed for those who already have in mind a fairly clear picture of Wren's style, and who are now interested in placing his work in its proper historical perspective.



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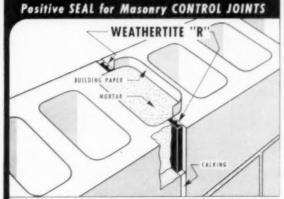
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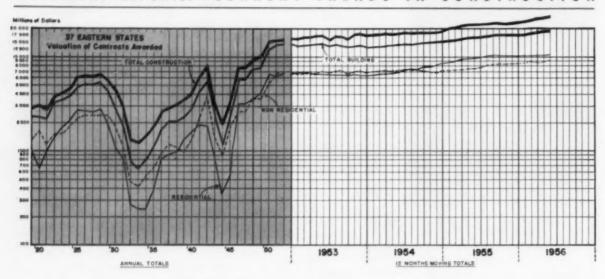
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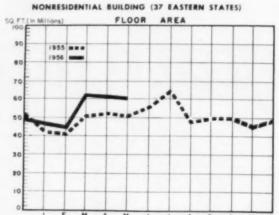
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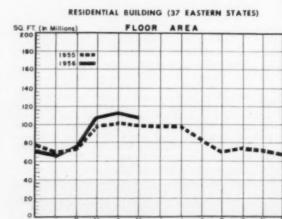


GAINS CONTINUE IN ALL CATEGORIES

The latest monthly totals reported by F. W. Dodge Corporation on construction contracts awarded in the 37 eastern states reflected a continued improvement over the equivalent period last year in all of the three major categories. The total valuation figure for May was \$2,479,775,000, a 13 per cent increase over May 1955, and the five-months cumulative total reached \$11,001,144,000, also a 13 per cent increase over the first five months of 1955. For the month of May, nonresidential construction totaled \$819,421,000, up 13 per cent over the 1955 month; residential construction \$1,129,262,000, up 12 per cent and the highest residential total for any month ever recorded by Dodge; and heavy engineering \$531,092,000, up 19 per cent. Figures for the first five months showed nonresidential construction at \$3,813,410,000, up 16 per cent; residential at \$4,872,450,000, up nine per cent; and heavy engineering at \$2,315,284,000, up 20 per cent. Within the nonresidential category, increases over May 1955 were registered for all building types except manufacturing buildings (down seven per cent).

Charts by Dodge Statistical Research Service





		TOTAL	BUILDIN	G	
		racts Award			
Year	Annual Total	Monthly Average	Year	Annuai Total	Monthly
1929	4,341,037	361,753	1950	11,922,623	993,55
1935	1,159,819	96,651	1951	13,027,901	1,085,658
1941	4,269,472	355,789	1952	13,362,568	1,113,547
1944	1,247,877	103,990	1953	13,435,009	1,119,584
1946	5,858,396	488,199	1954	15,628,639	1,302,386
1949	7,883,295	656,941	1955	18,682,088	1,556,840
		Mont	hly Totals		
	1	955			1956
Jan. 1	,236,143	July	1,851,649	Jan.	1,355,667
Feb. 1	,278,565	Aug.	1,516,881	Feb.	1,429,325
Mar. 1	,748,600	Sept.	1,442,185	Mar.	1,986,476
Apr. 1	,776,148	Oct.	1,474,779	Apr.	1,965,709
May 1	,737,065	Nov.	1,338,320	May	1,948,683
June 1	793,722	Dec.	1,438,031	5 mos	8,685,860

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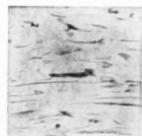
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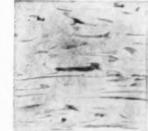
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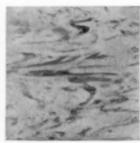








M-726



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The main banking room is richly adorned by Rouge-Royal murble,

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